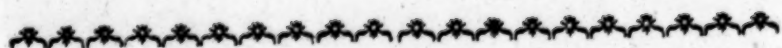
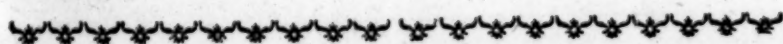


1609 / 5487.



THE
FARMER'S
KALENDAR;
OR,
Monthly Directory.



CONTENTS

THE
FARMER'S

CALENDAR

1	Folding sheep
2	Farm Yard
3	Cows
4	Swine
5	Planting Beans
6	Swine
7	Flowers
8	Threshing
9	Fences
10	Draining

THE
Farmer's Kalendar;

OR, A
MONTHLY DIRECTORY
FOR ALL SORTS OF
COUNTRY BUSINESS:

CONTAINING,
PLAIN INSTRUCTIONS
FOR PERFORMING THE WORK OF
VARIOUS KINDS OF FARMS,
IN EVERY SEASON OF THE YEAR.

RESPECTING PARTICULARLY

The buying, feeding, and selling Live Stock.	The Management of Grassies.
The whole Culture of Arable Crops.	The œconomical Con- duct of the Farm, &c.

BY AN EXPERIENCED FARMER.

L O N D O N,

Printed for ROBINSON and ROBERTS, No. 25,
in Pater-noster-Row; and J. KNOX,
at No. 148, in the Strand.

MDCCLXXI.

*Arthur
Young*

Farmer's Calendar

MONTHLY DIRECTORY

COUNTRY BUSINESS:

AMORTSUTSI NI "ATLANT"



CONTENTS.

JANUARY.

S HEEP, - - -	Page 3
Folding Sheep, -	6
Farm Yard, - -	8
Cows, - - -	9
Fatting Beasts, - -	11
Swine, - - -	12
Horses, - - -	13
Thrashing, - - -	15
Fences, - - -	16
Draining, - - -	20

CONTENTS.

MARCH

FEBRUARY.

Beans,	-	-	Page 24
Black Oats,	-	-	28
Hog Pease,	-	-	29
Borders,	-	-	32
Woods,	-	-	35
Barley,	-	-	36
Carrots,	-	-	37
Cabbages,	-	-	38
Water-furrowing,	-	-	42
Manure Grass Lands,	-	-	43
Manure Green Wheats,	-	-	45
Farm Yard,	-	-	46
Plant Willows, &c.	-	-	47
Tares,	-	-	48
Water Meadows,	-	-	49
Potatoes,	-	-	51

CONTENTS.

MARCH.

Barley,	Page	53
Oats,		60
Pease,		63
Drilled ditto,		66
Tares,		68
Carrots,		69
Parfnips,		72
Potatoes,		73
Ditto on Grafs,		75
Ditto on Borders,		76
Ditto for Horse-hoeing,		78
Cabbages,		80
Turnip Fallow,		83
Sowing Clover,		84
Ditto Ray-Grafs,		87
Sheep,		89
Cows, &c.		92
The Teams,		93
Water-furrowing,		95

CONTENTS.

APRIL.

Barley,	-	-	Page 97
White Pease, and Buck-Wheat,			99
Madder,	-	-	101
Licquorice,	-	-	104
Lucerne,	-	-	105
Sainfoine,	-	-	108
Burnet,	-	-	110
Sheep,	-	-	111
Cows,	-	-	117
Horses, and Oxen,	-	-	118
Hogs,	-	-	119
Potatoes,	-	-	120
Carrots,	-	-	121
Cabbages,	-	-	122
Water-furrowing,	-	-	123
Turnip Fallow,	-	-	124

CONTENTS.

Woods,	Page 124
Hedging; Clear Grass Fields,	125
Rolling,	126
Hops,	128

M A Y.

Farm Yard,	130
Cattle in Grass,	134
Buck-Wheat,	138
Lucerne,	139
Sainfoine,	140
Burnet,	141
Carrots,	142
Potatoes,	143
Cabbages,	144
Madder, and Licquorice,	146
Wheat Fallow,	147
Horse-hoed Corn,	149
Sheep,	150

CONTENTS.

Folding Sheep,	Page	154
Hogs,		156
Horses,		158
Oxen,		160
Cows,		161
The Dairy,		164
Pare and Burn,		165
Hops,		169
Bees, and Hemp,		170
Flax,		171

JUNE.

Turnips,		173
Cabbages,		177
Carrots,		183
Potatoes, and Madder,		184
Licquorice,		185
Hops, Flax, and Lucerne,		186
Sainfoine, and Clover,		189

CONTENTS.

Meadows,	-	Page 190
The Teams,	-	192
Horse-hoeing,	-	193
Fallows, and Buck-Wheat,	-	194
Sheep,	-	195
Folding,	-	198
Thistle the Wheats,	-	199
Dig Marle,	-	200
Dig Clay,	-	205
Dig Chalk,	-	206
Empty Ponds,	-	208
Rape and Cole-Seed,	-	209

J U L Y.

Farm Yard,	-	211
Turnips,	-	212
Cabbages,	-	215
Potatoes,	-	216
Lucerne; Mow Grass,	-	218
The Teams,	-	220

CONTENTS.

The Fallows,	-	-	Page 221
Folding,	-	-	223
Dig Manures,	-	-	224
Madder,	-	-	226
Cut Pease,	-	-	227
Barley,	-	-	228
Wheat,	-	-	229

AUGUST.

Wheat Harvest,	-	-	231
Barley, &c. Harvest,	-	-	240
Buck-Wheat, and Pease,	-	-	242
Beans; Turnip and Rape-Seed,	-	-	244
Gleaning,	-	-	246
Harvestmen,	-	-	248
Farm Yard,	-	-	250
Turnips,	-	-	251
Cabbages,	-	-	252
Sow Cabbage Seed; Potatoes,	-	-	253
Lucerne,	-	-	254

CONTENTS.

Sainfoine,	-	Page 255
Burnet,	-	256
Fallows,	-	257
Dig Manures,	-	258
Folding,	-	260
Hogs; and Carrots,	-	261

SEPTEMBER.

Wheat,	-	263
Clover,	-	269
Sheep,	-	270
Fatting Beasts,	-	279
Cows,	-	281
The Teams,	-	282
Manure Grass,	-	283
Scarify Grass Lands,	-	284
Burnet,	-	287
Fern,	-	288
Stubble,	-	289
Hops,	-	290

CONTENTS.

Plough Fallows,	Page 291
Water-furrowing,	297
Lucerne,	299
Folding,	302

OCTOBER.

Hiring Farms,	303
Servants,	308
Farm Yard,	316
The Teams,	318
Cows,	321
Fatting Beasts,	322
Hogs,	324
Sheep,	326
Manure Grabs,	327
Dig up Carrots,	331
Plough up Potatoes,	334
Lay up the Fallows,	335
Mazagan Beans,	336
Plough for Carrots,	338

CONTENTS.

Plough and dig for Madder, Page 341

Digging for Licquorice, 343

NOVEMBER.

Farm Yard, 345

Thraashing, 346

Fences, 347

Borders, 350

Folding, 353

The Teams, 354

Draining, 356

Woods, 358

Water Meadows, 359

Burnet, 361

Walling, 362

Dig Manures, 365

Cut Ant-Hills, 366

Madder, and Pease, 371

Fell Timber, 372

Sheep, 374

CONTENTS.

DECEMBER.

Thrashing,	-	-	Page 382
Farm yard,	-	-	386
The Teams,	-	-	388
Plough up Lays,	-	-	389
Cart Manure,	-	-	391
Sheep,	-	-	392
Cows, and Swine,	-	-	395
Fences; Manure Grass Lands,	-	-	397
Dig Manures,	-	-	398

INTRODUCTION.

GARDENERS have found great use in Kalendars of the necessary work for every month in the year; and, if the two professions be well considered, it will appear, that farmers want such a remembrancer, at least as much as their brethren in the garden.

The enquiry is not the utility of such a work to old, experienced, and good husbandmen; because no country is cultivated by such alone: but to younger, and less able ones, such a work cannot fail of being a useful companion.

At the beginning of every month, a farmer, whether he has or has not a book of this sort, should reflect on the
a work

INTRODUCTION.

work to be done in that month: he ought to foresee the whole, or else it is impossible he should make a proper provision for it. Now I leave to any one to judge, if this just idea can be gained so easily, and be so complete, without some further recollection than mere memory; and if a book of this sort but once in a year reminds him of some important work, which he would otherwise have forgotten, it will by every one be allowed to pay him ample interest for the small sum that is requisite to purchase it.

I hint this, because common farmers are generally poor, at least in what concerns the purchase of many things they think superfluous; I would therefore shew them, that a book *may be* of some use: a truth they will not all acknowledge.

As to the Kalendars which have hitherto appeared, they are very slight sketches;

INTRODUCTION.

sketches; added to other books; extremely imperfect, omitting at least as many useful articles as they have given; in works of high prices; and, in a word, scarcely in the least instance precluding the want of such a book as is now offered to the public.

About fifty years ago, a celebrated *Englishman*, Mr. *Tull*, made many experiments, in a new method of culture, the great design of which was to set aside the use of manures. To this day he has had many followers. With the gentlemen that pursue his system, tillage alone is necessary — the plough is all in all, and nothing is to be dunged, or otherwise dressed, but meadows or pastures. Were such ideas to become general, it is inconceivable how much mischief they would occasion; for there cannot be more false principles, than those whereon they are built. Throughout these sheets, care is taken to keep

INTRODUCTION.

clear of such errors. The great importance of manures is duly attended to, and the farmer well instructed how to raise as much as possible himself. This part of husbandry can never be too much attended to, nor can any have been more neglected by the generality of writers; indeed, except by one or two, (who it must be owned have treated it in a very masterly manner) they have not thought it worthy their attention.

There is another point, in which all the old writers of husbandry are totally deficient; it is that of farmers keeping accounts: this is a matter of very great consequence; and, as the monthly directions could not include it, it will be proper to be a little particular on it here.

It is not long since a specimen of accounts was laid before the public, consisting of several books, in imitation of merchants accounts; but I humbly think
that

INTRODUCTION.

that too complicated methods should not be recommended, lest the farmer, instead of being enlightened, should only be disgusted. The grand object is to keep a ledger, or account for every article in the farm; in which an account should be opened for every field in the farm, or at least for every arable field, and one for all the grafs. The farmer should in this book directly, without the intervention of a waste-book or a journal, enter all his expences; but, for doing this, he must take the trouble of dividing his rent to every field, so that the account may be complete, and not have an article for rent alone, unless it be a mere memorandum; and, before he balances his books at the end of the year, it is necessary for him first to cast up the fundry accounts, such as tythe—poor levy—various expences—and divide them in the same manner as rent.

INTRODUCTION.

To explain this, let us suppose, that under the article Tythe he enters the round sum he pays the parson this year, (which may vary the next) as it is for all his tythes, grafs, arable, small tythe, &c. It is a gross expence for the whole farm in general, and therefore, if it comes to 100*l.* and he has 400 acres, he should enter it 5*s.* *per* acre to every field. In the same manner, the poor tax, and other parish charges, should be managed: these vary every year; at the end, the sum total should be divided among the acres, and charged to each field. Another article is the Sundry expences, such as odd labour that concerns no particular account, bailiff's wages, expences at market, and, in a word, all money spent, that cannot be properly placed to distinct accounts. The sum total to be divided as above. Fences are another article, which should be thus divided. When this method is followed, the farmer has it always in
his

INTRODUCTION.

his power to see the real profit and loss of every field, which is a point of great consequence. He can then at any time, by turning over his book, see what courses of crops have paid him best: he may discover in this manner, that, in several fields of the same soil, some courses have paid him far better than others. For instance: he finds that a ten-acred close, thrown into the system of,

1. Turnips,
2. Barley,
3. Clover,
4. Wheat,

has paid him, at the end of eight years, 126*l.* 18*s.* 4*d.* and that other ten acres, thrown into,

1. Fallow,
2. Wheat,
3. Barley,
4. Oats,

paid him, in that time, no more than 68*l.* 16*s.* 2*d.* He sees at once how greatly preferable one course is to the

a 4

other,

INTRODUCTION.

other, and not only from a general, vague idea, but a clear balance struck between them. In the same manner, he compares all his sorts of cattle, and sees at one view which answers best. No person can doubt of the great advantages of this conduct being carried through a farm: it is what has properly been explained by no author; but, to make it perfectly simple and plain to the capacity of the lowest farmer, it would be necessary to give more minute examples than are proper for this introduction.

The advantages, which must follow so accurate an attention to husbandry as a Kalendar leads to, with a due consideration of the importance of regular farming accounts, brings me to offer a word or two on the profit of husbandry, when properly conducted. Whoever will give good attention to improvements, will find it a business yielding better

INTRODUCTION.

better interest for money than any other, and at the same time wonderfully healthy and agreeable: it is in every scale, from the largest tenures down to the least farms, nearly connected with all the enjoyments of a country life, with house-keeping, horses, equipage, sporting, &c. &c. and, if there is the least prudence in the management, many advantages of every kind may be reaped, without falling into dangerous expences.

The benefit of being able to employ small sums of money is peculiar to husbandry. What trade can be set up without introduction or partnership, in which a man can employ five hundred pounds? In most he must have nearer five thousand; but in husbandry, a young man that is not extravagant, and will mind his business, may on such a farm as 500*l.* will stock, live very agreeably; for it will fix him on eighty or an
hun-

INTRODUCTION.

hundred acres of good land, which will yield him an annual profit of from 100*l.* to 200*l.* a year clear, or from 30 to 40 *per cent.* for his money.

But when I speak of such a profit, it is to be understood, that I mean by following a somewhat better husbandry than common. Bad common management will not yield so great an advantage, but improved methods change the case greatly; not however that I would by any means recommend his deviating in the expensive gimcrack parts of husbandry, which are fit only for gardens or experiment-grounds; but merely to adopt the culture of such plants as will pay well for an accurate management *in large*. I have mentioned his farming so little as eighty or an hundred acres; but a much smaller quantity may be profitably managed, and yet a team kept.

A good

INTRODUCTION.

A good farmer will always remember, that there is more profit in a masterly cultivation of a few acres, than in the slovenly conduct of many.

Lucerne, cabbages, carrots, and potatoes, may every where be safely introduced, excepting certain soils, few in number, that are improper for some of them. If the culture of these plants is pursued, a team may be employed on a very small farm with advantage; but, as manuring of all sorts is of infinite consequence, especially to these luxuriant growing plants, a small farm, on which they are introduced, would be particularly profitable; if situated within reach of a town, where manures could be purchased; because then all the time not wanted in tillage, &c. might be employed in bringing dung, &c.

To state a case, which will explain this idea, and illustrate some particulars

INTRODUCTION.

in the ensuing pages: Suppose the team of a little farm to consist of four horses, and the distance from purchased manure such as admits of one journey every day, the expence may be stated as follows.

Keeping 4 horses a year, exclu-			
five of summer food,	£.	40	0 0
1 Man, - - -		25	0 0
Wear and tare, - - -		20	0 0
300 Waggon loads of manure,			
at 5s. - - -		75	0 0
Beer for the man, and turnpikes,			
300. journies, at 1s. 9d.		26	5 0
Total, - - -		186	5 0

300 Waggon loads.

600 Cart, at 6s. 3d. a load.

This is the price, at which he would get the manure, whether he thus employed the team the whole year at it, or only a part,

Suppose

INTRODUCTION.

Suppose the farm consisted of five acres of lucerne, five of natural grass, and thirty-five of arable land thrown into the following course:

1. Potatoes,
2. Carrots,
3. Cabbages,
4. Barley,
5. Clover,
6. Clover,
7. Wheat.

Ten acres every year of clover, and five of each of the other crops. And suppose further, that the potatoes, carrots, cabbages, half the clover, and the lucerne, *every year* manured, as above, with 12 loads an acre, at 6s. 3d. In this case the expences *per acre* would be nearly as follow.

The lucerne, 6l.

The cabbages, 7l.

The potatoes, 8l.; and 10l. more for buying lean hogs to fat.

The carrots, 10l.; and 20l. more for buying hogs to fat.

INTRODUCTION.

The wheat, 3*l.* 15*s.*

The barley, 3*l.* 15*s.*

The clover, half at 4*l.* 14*s.* and half at
1*l.* 10*s.*

The grafs at 1*l.* 5*s.* rent and charges.

All expences whatever are included
in these fums.

Expences.

5 Acres lucerne, at 6 <i>l.</i>	£. 30	0	0
5 of cabbages, at 7 <i>l.</i>	35	0	0
5 of carrots, at 30 <i>l.</i>	- 150	0	0
5 of potatoes, at 18 <i>l.</i>	- 90	0	0
5 of wheat, at 3 <i>l.</i> 15 <i>s.</i>	18	15	0
5 of barley, at ditto, -	18	15	0
5 of clover, at 4 <i>l.</i> 14 <i>s.</i>	23	10	0
5 of ditto, at 1 <i>l.</i> 10 <i>s.</i>	7	10	0
5 of grafs, at 1 <i>l.</i> 5 <i>s.</i> -	6	5	0
Sundry labour in carting it home, &c. &c. -	30	0	0
Total, - -	409	15	0

INTRODUCTION.

Product.

Product of 5 acres lucerne, and 5			
cabbages; the keeping 17 cows,			
at 6 <i>l.</i> per cow,	-	£. 102	0 0
5 Acres carrots, at 700			
bushels per acre;			
3500 bushels, at			
6 <i>d.</i> per bushel, £.	87	10	0
Prime cost of the			
hogs,			
-	100	0	0
		187	10 0
5 Acres potatoes, at			
500 bushels per acre,			
2500 bushels, at 9 <i>d.</i>			
per bushel, -	93	15	0
Prime cost of hogs,			
-	50	0	0
		143	15 0
5 Acres of wheat,			
-		40	0 0
5 of barley,			
-		35	0 0
10 of clover, 5 loads hay, at			
30 <i>s.</i> 7 <i>l.</i> 10 <i>s.</i>	-	75	0 0
The grass for the horses.			
Total,	-	583	5 0
Expences,			
-		409	15 0
Clear profit,	-	173	10 0

There can be no doubt but this cultivation might be realized in any place,
the

INTRODUCTION.

the situation of which would admit the above suppositions. The crops are large, but not too great for such most uncommon improvement by manuring. Here we see how great a profit may be made by a spirited husbandry on a small space of ground; but common farmers will never equal any thing of this sort, for want of attending more to useful books, which point out the culture of these valuable plants, and direct their management. This instance shews the importance of attending well to husbandry, under certain improvements, which render it so much more profitable than most other businesses. An employment of money, that will allow of such great advantages, much deserves a little more than the attention of common farmers. It is to be hoped, that this Kalendar will assist in such undertakings, and not be turned to in vain by others, who design to pursue only the usual system of management.

THE
FARMER'S
KALENDAR.

HUSBANDRY is an art so extremely various in its operations, its professors have such a perpetual call for their attention, and every month brings so many works, that must be executed in a given time, and some of them almost to a day, that scarcely any business requires a better memory, none a stricter observance of seasons. An old experienced farmer may not want a kalendar, to remind him of the work necessary to be done, in every month, upon the generality of farms; but to younger ones, and

B

the

the whole tribe of gentlemen farmers, such a companion cannot be altogether useless.

Husbandry has, for many years, been my only business; and the work, now published for the use of my brother farmers, is actually an enlargement of a manuscript, originally drawn up for my own use. I found the benefit of such a monitor so great, that, for several reasons, I kept adding fresh particulars, as they occurred in the practice of my business, and have ever since experienced no slight advantage from often turning over my Kalendar, to see if I had the works of the season in hand.

I have been as concise as I could in the directions how each business is to be performed. Some instructions of this sort were necessary for the young practitioner; but it was likewise necessary to keep such parts within due bounds, and not swell them with all the minutiae of farming.

JANUARY.

SHEEP.

IN this month the farmer's ewes are generally lambing. Great care ought to be taken of them: they seldom want turnips before; for most farmers have grass enough, either in whole fields, or in borders, &c. for lean stock sheep to pick up a living till they are near lambing, when they should have turnips regularly given them. The best method is to draw the turnips, and cart them to a dry gravelly pasture, and there bait the sheep on them twice a day, observing well that they eat clean, and make no waste; which is not a bad rule for the quantity necessary. In this way, the tur-

4 THE FARMER'S

nip crop goes much the farthest. On very dry lands, many farmers, for the sake of manuring for barley, will eat the crop on the land, herdling off a certain quantity for the flock; and, as fast as they eat them pretty clean, remove the herdles farther. This method saves much trouble; but it should only be practised on lands that are perfectly and absolutely dry, otherwise the sheep poach it, and do as much mischief as good. The crop, in the dryest land, will not go so far as if drawn and laid in a grass field; for the sheep dung, and stale, and trample on, many roots after they are begun, which occasions much waste: nor is there any loss of manure in carting them, only it is left, in one instance, on the arable field, and, in the other, on the grass one: nor can any improvement be greater than this of feeding the sheep with turnips; on whatever land they are given, the benefit is always very great.

It is further to be observed, that many sheep are fattened on turnips, particularly wethers; in which husbandry many turnips are wasted, if you have not two flocks, one lean to follow the fatting sheep, to eat up their leavings; for they will not eat clean in fatting.

In very wet weather, storms, or deep snows, the sheep and lambs should be baited on hay; some farmers drive them to hay stacks, which shelter and feed them at the same time; and sheep in general do extremely well so; others give it in moveable racks; and allow a certain quantity every day. It is an excellent method to allow them in their racks a small quantity of hay daily while on turnips, let the weather be good or bad: but it is not absolutely necessary.

In some parts of the kingdom the best farmers give their ewes and lambs in this month bran and oats in troughs, while they are feeding on turnips; but it must be an extraordinary fine breed for such a practice to repay,

FOLDING SHEEP.

THE farmers, even in those parts of the kingdom which understand folding the best, and practise it the most, do not extend it so far as they might; they give over folding in *November* or *December*, whereas it may certainly be carried through the whole winter with profit. On those farms which have a perfectly dry gravelly pasture or two, it is highly adviseable to fold all winter on such dry grass land. It must not be attempted on arable land, nor on moist grass; but on dry gravelly pastures; the safety to the sheep is undoubted, and the benefit to the grass prodigious. But there is another method of gaining all the benefit of folding, quite through the winter, and on all soils; this is to confine them at night in a sheep-yard, well and regularly littered with straw, stubble, or fern; by which means you keep your flock

flock quite warm and healthy in bad seasons; and at the same time raise a surprising quantity of dung: so great a quantity, if you have plenty of litter, that the profit will be better than folding on the land. And a great improvement in this method, would be the giving the sheep all their food (except their pasture) in such yard; *viz.* hay and turnips; for which purpose they should be brought up, not only at night, but also to be baited about noon: but if their pasture be at a distance, they should then come to the yard the earlier in the evening; and go out the later in the morning, instead of baiting at noon. This is a practice which cannot be too much recommended; for so warm a lodging is a great matter to young lambs, and will tend much to forwarding their growth; the sheep will also be kept in good health; and, what is a point of vast consequence to all farms, the quantity of dung raised will be very great. If this method is

—pursued through the months of *December, January, February, March, and April,* with plenty of litter, 100 sheep will make a dunghill of at least 60 loads of excellent stuff, which, when rotten, will manure two acres of land amply : whereas 100 sheep folded (supposing the grass dry enough) will not in that time equally manure one acre.

FARM YARD.

IN this month a strict attention should be given to the cattle in the yard or yards—those I mean which run loose in them ; take care that they are regularly supplied with straw, and that they have always water at command : the thrashers should be so proportioned to the stock of lean cattle, as to make the straw last just through the winter. Take good care also to keep the yard well littered from the stacks raised in the autumn, of straw, stubble, fern, &c. so that the cattle may
always

always lay perfectly dry and clean. Their health requires this attention; which should, however, be given, were it merely for raising large quantities of manure.

COWS.

SEVERAL of your cows will probably calve in this month; about a fortnight before, they should be taken into the cow-house from the straw-yard, and be baited twice a day with green food; turnips, cabbages, carrots, potatoes, or whatever is the winter field food. After they calve they should be separated quite from the lean stock, either into the house or another yard, to be fed upon those articles with straw by them, but to eat no more than they pleased. Hay must be banished from this management, if you would make much profit by your cows: there certainly is no use in it, which is strongly proved by several good farmers

farmers I know, who make turnips and straw do without it; but this is for cows that are suckled: if they are milked, turnips must not be given, as they make the cream and butter taste; and the latter then sells at a low rate. Cabbages, or carrots, &c. should then be substituted, but chiefly the former, which will maintain cows in the cheapest manner in the world, and make the butter perfectly sweet; but you must pick off the decayed and yellow leaves, giving your cows nothing but the heart of the cabbage; the refuse leaves will be eat clean up by the lean cattle. The great expence of winter feeding cows with hay eats up half the profit of the dairy; even if none be given till they calve: for suppose them to calve in *January* or *February*, there remains three or four months at hay.

FATTING BEASTS.

AT this time the farmer who makes it his business to winter fat, is in the height of his work. There are three methods of fattening; carrying their turnips, &c. to a dry grass field, to a farm yard, or to a house where the beasts are tied up; the two latter methods are the best. —Scarcely any pasture is dry and sound enough to bear the tread of an ox in winter. If you fat in a yard, the food, *viz.* turnips, cabbages, or carrots, must be given in mangers under open sheds, with good straw always in the racks, if hay is short with you; but they will pay you well for hay: the same rule is to be followed in stall feeding; but observe to litter well, else they will presently have a bound hide, and not thrive well from dirt: in either of these methods, you must be well provided with a vast quantity of
of

of litter. I would advise three waggon loads of straw, stubble, or fern, to every beast, for so much they will make into dung, which ought to be your guide, and not the expence of the litter, as the dung will repay that with great profit. I am sensible less will do; but always remember, that the raising dung in winter is the grand pillar of your husbandry.

SWINE.

THIS is a principal season with swine, both for fattening, rearing, and bringing forth. As the two first are mentioned largely under other months, I shall, at present, speak only of the management of your sows and pigs. They must be kept each litter in a stie, and fed with dairy wash, out of your cisterns, and with the food you stored for them in autumn, either carrots, parsnips, or potatoes. These roots all do excellently for them; to substitute

stitute barley or pease, or even purchased bran or pollard, is therefore a most unprofitable conduct. The sows should always have as much as they will eat, or the pigs will suffer; and what is of as much consequence, is keeping them well littered: let them be always perfectly clean; it ensures the health of the pigs, and, at the same time, raises you a large quantity of the best manure about a farm.

HORSES.

ONE of the most useful general lessons, that can be given to an arable farmer, is to keep his horses always at work: the expence of a team is so great, that, if he does not pursue this rule, he must lose by them. *January* is a month, in which all business of tillage ought to be at a stop: if the weather is a hard frost, care should be taken, to make use of it in carting manures on the farm: if you have
composts

composts ready for the barley land, do not let a frost slip; or, if you have faggot carting, or the earth of borders under hedges to carry on, keep the carts close to it as long as the frost lasts. But, if the weather is open, road work must be done; carting out the corn will not near employ the teams; all other days the waggons should go to the nearest town for manure. There certainly are situations precluded from this advantage, but not many: how well it would answer to keep a team on purpose for the employment, depends on various circumstances; but we may be assured, that it must always answer greatly to employ the teams about it, when they would otherwise stand still; for then the expence is little more than labour, and wear and tear.

The same observations are applicable to the ox teams; and the farmer should have a strict eye, that both horses and
oxen

oxen have plenty of litter; otherwise his farm will suffer in a deficiency of manure.

THRASHING.

IN the thrashing the crops of corn and pulse, I before remarked, that the farmer should be attentive to proportion his thrashers to the stock of lean cattle, that neither more or less straw may arise, than is regularly consumed. Relative to the management of the thrashers, the farmer should be very clear-sighted to their motions, both as to the cleanness of their work, and to their honesty: he may lose immensely, if his straw is not thrashed clean; and, as it is a work generally performed by measure, the men are too apt to turn over the straw too quick, and thrash out only that corn, which comes the easiest from the ear. In respect to pilfering, the work gives them greater
I oppor-

16 THE FARMER'S

opportunities for it than any other; for which reason, he should have a sharp look out, and take care now and then to meet the men of an evening in their way home, and to come upon them in the barn, at various times, and unawares. Such a conduct will keep men honest, if they are so already, and prevent many knaves from practising their roguery; whereas an indolent, inattentive master, will make pilferers.

FENCES.

THIS is a principal season for hedging and ditching. A farmer cannot give too much attention to the fences of his farm; for, without good ones, he might as well cultivate open fields: he cannot manage them as he pleases, but is for ever cramp't, for fear his own or other people's cattle should break into his corn or hay fields. In fencing, it should be deter-

determined to execute the work in the best manner, which is the plashing method. It is done in the following manner: the men first clear the old hedge of all the dead wood and brambles, and other irregular growing rubbish, leaving along the top of the bank the straightest and best growing stems, whether thorns, hazel, elm, oak, ash, fallow, beach, &c. about five or six in a yard; but, if there are any gaps or places thin of live wood, on each side of such places they leave the more. When this work is done, they repair the ditch: I should never advise a less than three feet by two and a half, and six inches wide at bottom, in the driest soils; but, in all wet or moist ones, never less than four by three, and one at bottom. All the earth that arises from the ditch is to be thrown on to the bank. Your men, if you do not bargain with them before hand, will lay some of it on the brow of the ditch; but this must never be allowed, unless the ditch earth

C

happens

happens to be extraordinary rich, and to pay well for carrying on to the land, otherwise the grass of the border is spoiled, and you are at the expence of carting earth, and is worth but little: When the ditch is finished, the men begin the hedge: they first lay a thin layer of dead brambles or bushes along on the bank hanging towards the ditch; then they observe, among the stems left in the cutting the hedge, such as grow in the line where the new hedge is to run, and cut them off about three feet from the top of the bank, to serve for hedge stakes to the new hedge. This practice cannot be too much commended; for these stakes being immovable, and never rotting, keep up the new hedge; so that it never falls, or leans either way. Next they drive in their dead hedge stakes where wanted, chusing fallows or willows, that they may grow. The hedgers then plash down the remainder of the live wood left standing: they cut the stick twice, one stroke

stroke near the ground, and the other about 10 or 12 inches higher, and just deep enough to slit out a part of the wood between the two, leaving the stem supported by little more than the bark, or about a quarter of its first size; it then is laid along the top of the bank, and weaved among the hedge stakes. All are served thus; and, where they are not thick enough to finish the hedge, dead thorns are wove among them; then the top of the hedge is eddered in the common manner.

The fence thus made, consists of a good ditch and a hedge, most parts of which are alive; that is, the stakes, and much of the wood that is weaved between them. The importance of having as much as possible of the hedge alive, cannot be too strongly impressed. This management ensures a lasting fence; whereas the hedges that are all dead, presently rot, and fall into the ditch. Those farmers, who live in countries that know nothing of the plashing method,

cannot give too much attention to teaching their men: the best way is, to send for labourers from the plashing countries, who, in one season, will easily instruct his regular men in the business, which they may afterwards perform without difficulty.

DRAINING.

JANUARY is as proper a season for draining as any in the year. There are several sorts of drains; but I shall confine myself at present to the covered ones. There are two methods of making them; one by ploughs, which cut them either at one, or various furrows, according to their merit; and by digging with a system of spades, which work one after the other, so as to dig a drain about four inches wide at bottom, and of various depths, and breadths at top. If a farmer occupies land that has no stones
large

large enough in it to obstruct a plough, that implement is by all means advisable; for the expence of cutting the drains with a plough, instead of spades, is not near so great. But it should be observed, that draining ploughs can only cut the small drains; spades must be used for the main ones; their various course, and superior depths require manual work. Suppose a large field drained by parallel cuts of a plough, still the water must be carried out of those cuts by deeper drains dug, unless the land has a regular descent; but, whether the operation be performed by a plough, at a small expence, or by spades at a large one, still the necessity of the improvement for wet soils remains the same, and those who have had experience of their nature, will not regret the expence of performing the work effectually. Wet grasslands are for ever over-run with rushes, and other aquatic rubbish; the hay of little value, and small in quantity. Ara-

ble land, that is wet, can never be applied to a profitable purpose: it is too adhesive to plough, when kindlier soils have received their tillage, and are sown: in wet seasons, the crops are too trifling to pay expences: whatever attention is given to water-furrow them, still the land will not have that mellow, favourable nature, that enables it to yield advantageous crops. The expence of covered drains may be estimated, on an average, at 3*l.* an acre, when done with spades. Now this expenditure will, in a moderate case, be repaid by the mere saving of the extra expence of water-furrowing, exclusive of all the superior benefits of it. Covered drains, dug 32 inches deep, four inches wide at bottom, and 12 at top, and filled about ten inches deep, may be completely executed at 3*d.* a perch, where labour is 14*d.* *per* day in winter. In respect to filling up these drains, the farmer must be guided by the circumstances of situation: if stones
are

are to be had in great plenty, he should fill with them : bushes, common faggot wood, bricks, horns, and bones, turf laid in like a wedge, straw, fern, ling, stubble, &c. &c. are all used in various places ; and in *Essex*, where these drains have been made almost time immemorial, the farmers insist, that the great object is not durability of materials, but the arching of the earth, when the materials are rotten and gone. In many parts of that county, drains run well to this day, that were filled with nothing but straw, more than thirty years ago. The extending such a practice should, however, depend absolutely on soil ; for most certainly there are soils, in which such a practice would be totally inexpedient.

FEBRUARY.

BEANS.

IN this month, begin to sow your bean crop, and, if your soil and the season agree, finish if you can; for later sown crops will not succeed so well. The land ought to have been ploughed into the three-foot ridge, and well water-furrowed the autumn before; by which means your only object now will be the seed earth: so that the *first* dry season may be taken for sowing. To get the bean crop in the land in *February* is an object of much consequence, if the soil is dry enough.

As to the methods of sowing, there are many. Some farmers sow the beans

over

over the land, and plough them in; others plough first, and harrow in the seed; and these both on ridge and flat work. The best way of sowing is either to half plough the ridges, and sowing broad-cast, afterwards finish; or to sprain them by hand before the plough, so that they may rise in rows on the tops of the ridges. In the latter way, they are in single rows; but, in the former, double. In the following summer, the single rows are ploughed between, in the horse-hoeing manner, and the double ones hand-hoed: both are common husbandry in several parts of the kingdom. But I shall recommend, in preference to them, using a drill plough at least for shedding the seed, as it executes that work with much greater accuracy, than any hand in the world can do. Light drills may be had to wheel along the ground, like a wheel-barrow. The use of such an instrument will save much money, at the same time that it performs the

the work much better than any other method. A farmer, that has land proper for beans, should, on no account, avoid giving a particular attention to the crop; for it will prove one of his surest funds of profit. By means of beans, he may be able to banish the unprofitable custom of fallowing; for a crop of beans, rising in single rows on three feet ridges, or double rows at one foot on four feet ridges, gives so good an opportunity for ploughing the intervals, and also admits hand-hoeing the rows, that the land may be cleaned as well as any fallow, and the crop succeeded by corn; but, if the soil is in such terrible order, that this culture is insufficient to clean it, then let a second crop of drilled beans succeed, which will be very profitable husbandry, and cannot fail of bringing it into garden order. Whenever beans are cultivated with this view of substituting them in the room of a fallow, let the farmer absolutely determine on drilling them, so as

to admit the plough between the rows ; for no hand work will clean and pulverize the land sufficiently for this purpose, at least without an expence too great for the object. If the spirited husbandman calculates the expence of a summer fallow, and also the account of a drilled bean crop, he will find the necessity of this culture. Beans do very well on loams, and on lighter ones than commonly imagined ; but on light gravels, sands, &c. more profitable crops may be substituted. Let the farmer remember the general maxim in his tillage for beans this month, never to allow his ploughs to stir while the land is wet : if his horses poach at all, or his ploughs do not go clean through the land, he will lose, or at least greatly damage his crop. Two bushels of seed *per* acre sown, and six pecks drilled in equally-distant rows, three feet asunder, are sufficient quantities.

BLACK OATS.

THIS month is the proper season for sowing black oats: the land should be ploughed first, and the seed harrowed in. Four bushels *per* acre are a proper portion of seed, in rich soils; but five or six do better on poorer ones. They suit best on turf land ploughed up in the winter, and left till this time for harrowing in, which is a profitable husbandry, as it finds employment for the ploughs throughout winter. The farmers usually sow them after other crops of corn, but that practice is always to be condemned; they likewise plough but once for them; on the contrary, I suppose the land to have been ploughed in the preceding autumn. They follow beans or pease properly, or any ameliorating crop of roots, &c. Supposing the land too wet to plough, they cannot be sown this month;

month; but, if your soil and the season will allow, never delay getting them into the ground: for early sowings of all hardy crops, when the land is dry enough, are of great importance, and many times more than sufficient to balance other very expensive circumstances.

HOG PEASE.

THIS is also the season for sowing the hardy sorts of pease. The land should have been ploughed in autumn, and again at sowing; if the soil is light and porous, turn them in by the plough; but on other lands it has been found more advantageous to plough first, and then harrow them in. A farmer, desirous of keeping his land always in good and clean order, should, in the arrangement of his crops, take great care not to be too free with wheat, barley, and oats, which are all exhausting plants: he should
sow

sow beans and pease enough, because they are ameliorating ones, and admit hand-hoeing to kill the weeds. In those fields, in which the common husbandmen sow oats or barley, after wheat, or each other, let the good cultivator substitute pease or beans, or some other ameliorating crop, which will pay him better than corn, under such circumstances, and at the same time keep his land clean. Pease may be sown, like black oats, on turf ploughed up in the winter, harrowed in. In some parts, they dibble them in with an iron, which makes three or four holes at once; by which means a bushel does for an acre of land: whereas, if they are sown, it requires two bushels.

I must in general remark, on the culture of pease, that the farmers are too apt to sow this pulse when the land will yield nothing else. They have a proverb among them, which signifies, that the season does as much for pease as good husbandry; and they from thence take
care,

care, that good crops shall be owing to season alone. Hence arises the general idea of pease being the most uncertain crop of all others. All this is owing merely to their being scarcely ever sown on land that is in good order. Let the good husbandman lay it down as a maxim, that he should sow no crop on land that is not in good order: he should never sow oats, pease, or beans, on land, that is not in order for barley—not respecting the fine tilth at the time of sowing, but the soil's being in good heart, and clear of weeds. But I would not here be understood to rank all these crops together; because beans and pease will admit of cleaning while they grow, whereas corn will not, to any profit. So that, if a farmer comes to a field, which his predecessor has filled with weeds, a horse-hoed crop of beans will be expedient, when a barley crop would be utterly improper: and, after land has yielded one crop of barley, certainly another

other should not be sown, but one of pulse substituted. If these ideas are well executed, the pease and beans, in every course, will find the land in heart enough for barley, the soil will always be clean, and the crop good. Pease, when managed in a spirited manner, will not have the reputation of being an uncertain crop, which character, I am persuaded, has been owing to the slovenly conduct of bad farmers.

BORDERS.

THIS is a proper season for bringing the borders of the inclosures into good order: they are generally found to be high, irregular ridges of land, from earth thrown out of ditches, and not carted away, and from the turning of the ploughs and harrows: they are often over-run with bushes and wood, and much land lost. The best method to be

used with them, is first to cut all the wood, and make it into faggots, and then to grub up all the roots, and make them into stacks; for which work labourers are generally paid by the piece, 1 s. 4 d. *per* hundred faggots, three feet long, and six a stack of roots, of sixteen feet long, three feet high, and three broad, fairly piled close together; and which price includes breaking all the ground a spit deep. It is proper to agree with them, for raising the earth into a high ridge, in the middle of the border. In most countries, this will be done for the 6 s. a stack; but, in others, it may cost 2 d. extraordinary. The earth then lies ready, and without any obstruction for carting away, either on to the field, to the farm-yard to make a compost, or for dung to be brought to it. But, in case one spit deep is not sufficient to make the border lower than the surface of the field, which it should always be, or, at the least, on a level with

D

it,

it, if it is grass land; then it will be adviseable to let the men, who stub up the roots, leave it level, and let others to dig it to the proper depth, in order to throw the whole, as before, on to a ridge. I have seen many farms so over-run with rubbish, that the borders occupy a considerable part of the whole: they then yield a very contemptible profit; for the product by wood, that is so open to all cattle, and spontaneously planted, consequently consisting three parts in four of brambles and rubbish of little value, that it is, upon the whole, no object compared with the land lost. When cleared, and dug away to a proper depth, it is ready to be laid down for grass, so as to pay rent as well as the rest of the farm. In arable fields, the plough will advance much nearer the hedges than before, and yet leave space enough for a grass border. Such an object as this may appear trifling to some farmers, who have not attended to

to the great loss of land from this slovenly practice; but to good husbandmen, desirous of making the most of every part of their farms, it will not appear in so low a light.

W O O D S.

THIS month, as well as the preceding, is a good season for felling underwood; in which work, and the converting the product to the best profit, lies much judgment. When a farmer has taken a farm, that has a wood in it, he should *consider* well which is the most advantageous use to put it to. In some countries, hoop stuff pays best; in some, hop-poles are, of all other articles, the most profitable; in others, faggot wood of various sorts. In some situations, bushes, loose or tied in faggots, are particularly valuable. In many parts, nothing in a wood pays so well as hur-

dles. Whatever answers best, the farmer should apply his wood to, and subject his management of it to such changes as a variation in demand may occasion. This may appear superfluous advice to old farmers; but there are many young ones that want reminding now and then of such circumstances.

BARLEY.

IT is now a proper time to examine such of your turnip fields as are finished, whether drawn, or fed on the land. If they will break up in a pretty crumbling, mellow state, it will be adviseable to leave them till the next month, and then plough and sow; but, if you find that the land will not, with one ploughing, be fine enough for this grain, then effectual care should be taken not to lose a dry season for giving it the first tillage this month, otherwise it will be sown too late.

CARROTS.

THIS crop is of vast importance to the farmers, who have spirit enough to cultivate it. It is not merely book husbandry, but actually common in some parts of this kingdom. *March* is the proper season for sowing it; but, on some soils, part of the preparation must be made this month. I suppose the land ploughed as deep as possible in *October*: if, on examining it, there is any reason to expect it will be deficient in fineness on sowing, let it receive a common ploughing, in dry weather, this month, which can scarcely fail of ensuring a good tilth the ensuing one. The soil proper for carrots being dry gravels, sands, or loams, you may probably be able to plough them this month. This tillage will not be necessary, if the land bids fair to work fine in *March*. Let

me here remark further, that, in case the land is very mellow, and in good order enough to harrow on this month's tillage, you should by no means omit to sow upon this ploughing, and harrow in the seed; for although *March* is the common season, yet the uncertainties of weather are such, that the state of the land, in most cases, requires a greater attention than the name of the month; and carrot seed, let the weather be ever so severe, will take no harm; it may be sown without danger in *November*; and, in case *March* turns out very wet, and your sowing is driven into *April*, it is twenty to one but the crop suffers.

CABBAGES.

THE fields, designed for cabbages in *April* or *May*, and ploughed in *October* on to the ridge, should this month, if the weather will admit, receive an earth, reversing

reversing the ridges, but not stirring flat. This will have good effects in pulverizing the soil, which it may be supposed to want, as it consists only of stubbles turned up in autumn. This is a point that should be attended to; for cabbages are always to be considered as a fallow, in which light their importance must appear sufficiently great. As this tillage is the first that marks the land for the crop, (all stubbles being ploughed in autumn, for whatever crops designed) it will be proper here to speak more particularly of the preparation and design of the culture.

Some late authors have published such extreme satisfactory experiments on cabbages, as food for cattle, that it would be unpardonable to pass over the article in this work. They are said to flourish to very great profit on all clays and good loams, and to have the particular property of enabling the farmers of clays and wet loams, to winter more cattle

than those of lighter lands can effect, by means of that excellent root, the turnip. The great evil of clay farms used to be the want of green winter food; which confined them in their stocks to hay alone, and consequently prevented their reaping those extended articles of profit, that arise from numerous heads of cattle; and besides the immediate benefit from the cattle, they lost also the opportunity of raising large quantities of dung, which never can be effected so well as by keeping cattle in winter. But all these evils are by the cabbage culture remedied, and the clay farmers put in possession even of a superiority over the turnip ones. If the difference between a summer fallow year on clay, and a turnip fallow on light land, be considered, the importance of this new discovery will appear sufficiently clear. Thirty shillings an acre expence, of the first, are not an exaggerated calculation; but all is saved on the turnip land, perhaps with profit; and

and the barley, that follows the turnips, is probably as good, or nearly so, as that which succeeds the summer fallow clay. Supposing the following clover and wheat equal in both, according to soil, still there remains a great superiority in the article manure; for all that is raised by the consumption of the turnip crop is so much superiority to the clay soil. But reverse the medal: suppose cabbages to be introduced on the clay, and the scene is totally changed: that crop will far exceed the turnips, yield much more profit, and enable the farmer to make a great deal more manure: for these reasons, the recommendations cabbages have lately had, appear to be extremely well founded; and consequently those farmers, who possess the proper soils, cannot determine too soon to enter on the cultivation.

But there is another circumstance attending some sorts of cabbages, which
make

make them highly adviseable on all farms, which is their lasting for sheep feed quite through the spring: the *Scotch* cabbage, turnip cabbage, cabbage turnip, and green boorcole, come into perfection the beginning of *April*, and last extremely well to the middle of *May*, the most pinching six weeks in the whole year. Turnips will do no such thing; consequently those farmers, who possess turnip soils, should, on no account, slight the culture of cabbages for this purpose.

WATER-FURROWING.

OBSERVE well all new-ploughed lands, to cut water-furrows through them, as soon as the fields are finished. Saving a trifle of money in the omission of such a necessary work, often hazards a crop, and is sure greatly to damage it. In making them, have a sure eye to the

descents and variations of the surface, so that no water can lodge in any parts, however wet the weather. Look also to the old water-furrows in the wheat fields, and those in the fallows ploughed at autumn. If they filled at any places, by the crumbling in of the moulds after frosts, or by the passage of moles, or other accidents, let them be cleaned out: too much attention cannot be given to keep your lands quite free from stagnant water.

MANURE GRASS-LANDS,

THIS is the proper season for laying on several sorts of manure, such as foot, coal-ashes, wood-ashes, lime, malt-dust, &c. and in general those that are spread in too small quantities to require a whole winter's rains to wash them in. The use of these manures, and other light dressings in *February*, are very beneficial; but,

but, throughout the management of purchased manures, you must form some experiments for a year or two, before you extend the practice; to see which, at a given price, will suit your land best. Without this precaution, you may probably expend large sums of money to very little purpose. Nor would I advise you to trust to the mere appearance of the effect soon after the manuring; for some of them, particularly foot and malt-dust, will shew themselves the first heavy showers, in a finer green than the rest of the field; but your proof of it does not arise from fine greens, but weight of hay; and I have myself experienced, that the latter is not always an attendant on the former. Mark out contiguous half acres, calculate the prices of your manures, and spread on each piece a separate one; all to the amount of 20s. an acre, for instance. At hay-time, weigh the crops; you will then know which manure, at the given prices, suits your
your

your soil best. This knowledge will prove true experience, and a very different guide from proverbs or random ideas.

MANURE GREEN WHEATS.

THIS is likewise the season for spreading superficial dressings on the green wheats, such as foot, ashes, malt-dust, pigeons dung, poultry dung, rabbits dung, &c. &c. and many other sorts in the neighbourhood of great cities. This is very good husbandry; but the profit depends on the expences. I shall venture to recommend your trying them in small, (half an acre, for instance, to each) before you extend the practice to whole fields, especially those which are not dungs. As to the latter, provided the prices be not extravagant, there can be no doubt of their answering on all soils. Whenever a farmer has the choice
of

of manures, never let him hesitate about which to take: he may lay it down as a maxim, that dungs of all sorts are excellent: other manures may be the same, but they are not so universal respecting soils.

FARM YARD.

THROUGHOUT this month, attend well to the farm-yard, and all the buildings where cattle are kept: see that every place is kept constantly littered, so that every thing is clean; and, if the stock of litter laid in in autumn will not last, it is time now, that you agree with some neighbours for a weekly supply of refuse straw or stubble: at all events, do not let there ever be a want of litter, either in the stalls or the yard; for this is the only way of raising large quantities of dung at a cheap rate.

PLANT WILLOWS, &c.

I do not, in this Kalendar, mean to treat of the planting trees, as that is a business rather of landlords and gentlemen, than farmers; but, with the quick-growing aquatics, the case is different. If any part of the fences of the farm are situated in low, wet, or boggy places, it is a chance if thorns prosper well. The best method of repairing them is to plant trunchions of willow, fallow, alder, &c. &c. for hedge-stakes, and also along the bank for plashing down afterwards, which will ensure the tenant a great plenty of firing; and in such situations, and waste spots that cannot well be better improved, it will answer extremely well to him, to set longer trunchions for pollard trees, they will repay the expence with great profit.

TARES.

THIS is a proper season for sowing tares, called, in some places, vetches, fetches, thetches, &c. The land I suppose stirred in autumn: the first season in this month, that is dry enough, plough the land again, and harrow in three bushels an acre of seed. I suppose them designed for making hay, or feeding green; but, if they are for a crop of seed, two bushels will be sufficient. Tares for hay make a most excellent fallow year: they are mown before they draw, or exhaust the land at all, and their extreme luxuriance and thick shade so mellow and loosen the soil, and kill all weeds, that, if the crop is good, and the seed sown not later than *February*, you will have a very good chance for a crop of turnips after them, on one earth; but, without such luck, this husbandry is
far

far beyond sowing two crops of corn running. If a farmer thinks of sowing barley after wheat, barley, or oats, or oats after either, let him throw a crop of tares for hay between two of corn, and he will be sure to reap the benefit of it. They will give him, on middling land, from a ton and half to two tons and an half of hay *per* acre, which, with their cleaning and ameliorating nature, will be found to far exceed any second crop of corn on the same land.

WATER MEADOWS.

THIS work is much neglected in *England*, and yet it is really important. Wherever a meadow or pasture is so situated, that water cannot be brought on it from higher grounds, whether by means of a river, ditches, trenches, &c. &c. it should by all means be done, though some expence were requisite to

E

effect

effect it. It will prove much the cheapest way of manuring; and, as it will be in your power, for most of the winter months, and executed annually, it will prove not less effectual than any other manuring. In case the water lodges in swamps or flat places, trenches must be cut through them, about a spit deep, and a spit and a half wide, to carry it off; because it should only run over the grass, but not remain on it. Wherever your water is, whether in river, ditch, or trench, it should be conducted over the grass, at various places, so as to water as much of it as possible. Suppose there is a ditch along the highest side of the field, the easiest management is to bring the water into that ditch, and then, by various outlets, flow it over the meadow. If the quantity is small; from one outlet at a time, stopping the rest. I have many times observed running ditches, that might be let on to grass-lands, without

out the farmer's ever thinking of any such matter; but the benefit of the practice is undoubted.

POTATOES.

THIS root is one of the most profitable crops the farmer can cultivate; nor does the advantage of it depend on markets for selling them: for they will pay a beneficial price, given to cattle of various sorts, particularly hogs. In *Ireland* they feed their cows on them to great profit. The land, designed for potatoes, I suppose to have been ploughed in autumn: they are to be planted the beginning of next month; and, as they affect a good tilth, it will be adviseable to plough the land this month, preparatory to the planting earth, provided the weather be dry enough: but in this, as well as for all other crops, be sure to avoid ever going on with your ploughs while the soil is at all wet.

As this tillage marks the land designed for this crop, it is proper to caution those farmers, who are unacquainted with the culture, against applying too much land to it. If you have a great plenty of dung at command, you may enter largely into this husbandry; but determine to plant no more land than you can manure at the rate of 25 or 30 large loads *per* acre; for one acre, well cultivated, will pay you better than five, or even ten, but indifferently managed.

MARCH.

BARLEY.

THIS is the proper month for getting all the seed barley into the ground. Crops, later sown, may be very beneficial; but, if all circumstances were equal, the *March*-sown would be superior to any later seasons, which is the only comparative point of consequence. This grain is sown after various preparations: turnips are the most common; which root will not last for feeding any cattle, with propriety, upon the average of seasons, longer than this month: so that the turnip-land barley must be sown on one earth, or the season absolutely

lost; for *April* and *May* sowings are always inferior. I am not here asserting, that *April* is a month quite improper for sowing barley; I know the contrary from experience; but I will venture to assert, that if soil, ploughings, manuring, water-furrowing, &c. &c. are equal, a *March* sowing will exceed an *April* one, on an average of several years, by six bushels in the crop. Saying, therefore, that barlies in certain places, sown in *April* and *May*, yield great crops, is saying nothing; unless you add, at the same time, the parallel success of other crops sown in *March*. Neither do I venture to insinuate, that all *March*-sown crops are to be successful; one indispensable necessary in sowing most crops, but barley in particular, is the land being quite dry. *March* may pass quite away, without a single ploughing season, in the whole month, for wet lands. In such a case, I certainly cannot mistake so greatly, as to advise the sowing barley; but still
this

this is not in reference to a particular practice, but to a general maxim in husbandry. You ought never to suffer your ploughs to work, if the land is wet; consequently, advice to sow barley in *March* must always be under the proviso, that the land is dry enough to plough.

Turnip land, not cleared till this month, can only receive one ploughing, and have the seed harrowed in: if more earths are given, the sowing time will be driven much too late. In this case, on many soils, the land will not be turned up in fine order: Six bushels should then be sown on each acre of land, unless the fertility is great, when five will do. Summer-land barley, on clay, or other heavy soils, should always be sown on one earth, in the first dry, ploughing season, whether in *February* or *March*. In some clay countries, the farmers have an exceeding good barley culture: they summer fallow their land, and lay it up

on three-foot ridges, well water-furrowed for the winter. In a hard frost, they carry on their dung, and leave it in heaps till sowing time, when they spread before the ploughs: this is incomparable good husbandry, and can never fail of good crops. It is conducted, upon the same principle, upon beans, pease, tare, potatoe, or carrot land: all which crops are taken up in autumn, and the land ploughed after them, on to the ridge, and well water-furrowed, ready for the spring-sowing. The great point is, to have the soil, previous to the crop, in such good order, that no other spring tillage may be necessary than the seed-earth. In such husbandry, there can be no fear of having good crops, nor is it practised any where, where bad ones are reaped. Upon lands thus managed, four bushels of seed *per* acre, if the soil is rich, are sufficient; and to harrow in the whole, the best way of covering it.

Much the most profitable way of cultivating

tivating barley, is to throw it into a regular course, preparatory to the clover. For instance: 1. Turnips. 2. Barley. 3. Clover. 4. Wheat. Or, 1. Cabbages. 2. Barley. 3. Clover. 4. Wheat. Another: 1. Fallow. 2. Barley. 3. Clover. 4. Wheat. Whatever variations may arise in the crops, still barley must always follow either an ameliorating crop, or a fallow, and in all cases be followed by clover. In many parts of the kingdom, unacquainted with clover, this latter reasoning may appear bad; but that can only arise from false ideas of the use of clover. Let good grass lands be ever so plentiful, they will in no case be found to preclude the use of clover. Farmers, even on grass farms, that know not what to do with large crops of clover, I will venture to pronounce unworthy the name of farmers. No man, that has money in his pocket, can be at a loss to know how to dispose of any sort of food for cattle. What would any man wish to follow a
barley

barley crop? No sort of corn can succeed, according to the plainest principles of common good *husbandry*. To substitute pulse instead of clover, is certainly bad management; for the grass will prove as beneficial as either beans, pease, or tares, and it will more profitably prepare for wheat. That grain, sown upon a clover lay, must always be on one earth, which is a most favourable circumstance; and the propriety of keeping the land under the clover two, three, or four years, during all which time the crops will be extremely fine, is another very strong argument. The mere amount of the clover crops is not the only enquiry; the *clear* profit of them is the great object; and grass, in that respect, is of peculiar advantage to the farmer, whatever his soil; for clover, as long as it lasts, will pay a much greater profit, clear of expences, than any crop of corn the farmer can substitute, which, with the advantage of breaking it up for corn, either

either wheat or oats, renders the clover husbandry an absolute appendage to that of barley.

In respect to the management at sowing, there are two methods that are very different: the one is to harrow in the seed with, or upon, the barley seed; the other, to sow it before the roller, after the barley is up. The reason of the latter practice has been owing, I apprehend, to the barley crops in wet seasons suffering a good deal from the luxuriant growth of the clover. I have had several fields of barley half spoiled by clover, sown with the corn. This reason is a very good one in many situations; but I think, with proper management, the evil might be easily remedied. I should propose the crop to be mown for hay, as soon as the barley began to ear: the great quantity of clover among it, which there must be to endanger the crop, would, with the barley, make an admirable one of hay, and I apprehend

fully equal in value to the amount of a good barley one. Farmers are too apt to view corn, sacked up in market, as the only object of husbandry, because it is most saleable: they would act much wiser, if they esteemed the food of cattle as equally advantageous. Corn they prefer to beef, merely because it does not require so much stock in hand; but the difference between these productions, in other respects, is very great: for what comparison can be drawn between crops that exhaust the soil, and fill it with weeds, and others (the food of cattle) that ameliorate and clean it?

OATS.

WHITE oats should now be sown in preference to any other season; and, in the general conduct of them, the farmer should, by all means, avoid the common error of sowing them after other
corn

corn crops, by which they exhaust and ruin their land. They should always receive the same preparation as barley; nor ought a good husbandman to think of their not paying him as well for such attention as that crop. It is a very mistaken idea, to suppose it more profitable to sow barley on land in good order than oats. I am confident, from divers experiments, that oats will always equal, and, in many cases, exceed barley. The superior quantity of the produce will ever be found to more than answer the inferiority of the price.

What good reasons are to be offered for sowing oats on land in such bad order, that barley is not to be ventured in, I know not: I have never heard any satisfactory ones. The common argument is their hardness, which will give you a middling crop, about sufficient to pay expences, and leave a trifling profit, when no other crop will do the like; but this is only proving them to be assistants

sistants of bad husbandry; nor is such a paltry profit, granting false premises, (for I am well persuaded, that common oat crops, among bad farmers, are but so much loss) an object that ever ought to influence good husbandmen. Why should a good farmer be at all solicitous to gain 10s. an acre profit by oats after barley, &c.? Suppose his course to be: 1. Turnips. 2. Barley. 3. Oats. Or, 1. Fallow. 2. Wheat. 3. Oats. In either of these courses, or in any other, where the oats follow another crop of corn, the profit of them must be very trifling. What comparison with sowing clover with the barley, which will pay far more profit, and at the same time prepare, in the best manner, for that most beneficial crop, wheat? What but a fallow, or a fallow crop, can succeed the oats? How unprofitable, compared to the clover system!

For these reasons, I cannot but strongly recommend to all farmers, that they should

should consider oats and barley quite in the same light, and never sow the one, unless they know their land to be in proper order for the other : to sow them after a fallow crop, and clover with them, in the same manner as with barley. Upon rich lands, four or five bushels *per* acre are the proper quantity of seed oats ; but, on weaker soils, six or seven should be sown.

PEASE.

THIS month is the proper season for sowing all sorts of pease, that were not sown in *February* ; nor is it proper to delay any of them later, if the weather now suits. White pease should be sown last, and on light land ; for they do not succeed well on heavy or wet clays. There are scarcely any soils, that do not suit some pea or other : stiff clays do very well for the hardier hog-pease, and

64 THE FARMER'S

and all lighter loams, gravels, chalks, and sands, answer well in the tenderer kinds: they are both ploughed and harrowed in; which variation sometimes makes a considerable difference in the crop; for, if the land is apt to bind, with rain, and the pease are ploughed in, they sometimes do not rise at all, not having strength to pierce the plastered surface; but this evil only attends the very binding soils: on the contrary, when the seed is only harrowed in, if the field is not very well watched, the pigeons and birds will carry away much of it, and some allowance in the seed should be made for it. If land breaks well with the harrow, it is best to harrow in on all, but the very lightest lands; but on loose sands, or very light and porous soils, or those that are extremely dry, it must certainly be preferable to plough it in, on account of having a greater depth, and being further from
the

the sun, which is apt, in hot summers, to burn these soils up.

Sow pease after corn: they always come in best after wheat, barley, or oats: generally with good husbandry after wheat; because, in a farm truly ordered, barley and oats should ever have clover sown with them. I can hardly suppose a situation, where this is not the right management: they come very properly into such courses as these: 1. Turnips. 2. Barley. 3. Clover. 4. Wheat. 5. Pease. Or, 1. Cabbages. 2. Oats. 3. Clover. 4. Wheat. 5. Pease. Whenever wheat succeeds clover, you may throw in a crop of pease after it, if it suits you better than to come again to turnips, cabbages, or beans, the first of the course.

DRILLED PEASE.

THIS pulse is, in some places, drilled, which is a very good method, and by no means to be condemned so generally, as most farmers do all crops that are sown by a drill-plough. The great use of drilling pease is the rendering it so much easier to hand-hoe them. Good farmers, whatever their soil, are always desirous of getting the hand-hoe into as many crops as possible, and few pay better for it than pease; but, when promiscuously sown, the work is difficult and expensive to perform well; whereas, if they are drilled in equally-distant rows, one foot, or nine inches asunder, the hoeing is as regular work as can be conceived: it will be executed much easier, better, and cheaper, and the crop be consequently superior. Another advantage in this method is the saving of seed;

seed; for a bushel, or a bushel and half less seed, will do thus than in broadcast sowing. Here, therefore, is a case, in which drilling is really profitable, and will exceed the common husbandry. The point of admitting the hand-hoes better is a very important one; for that operation, given while the crop is quite young, checks the weeds so much at the same time that the crop is forwarded, that the tendrils join the sooner, and much the stronger for it; and, consequently, the good effect of a thick, luxuriant crop, gained in a much completer degree. But let the farmer, when he agrees to use the drill-plough for this work, not be persuaded to change his purpose of hand-hoeing, in order to introduce a horse-hoe in wider intervals; that is, to sow two or three rows equally distant, and then, passing a space of two or three feet, drill a fresh system of rows, the intervals for ploughing. This is more complex husbandry, and will

not answer so well; for the pease are very apt to fall into the intervals, and be damaged by the horse and plough: an evil that has very bad consequences. The profitable drilling, therefore, requires a plough, that will sow several rows equally distant at once: the greater the number, the quicker the work is done.

T A R E S.

IF the weather in *February* did not allow your sowing tares, or at least all your crop, the work must not be delayed longer than *March*, or the crop will suffer. The best way is, to plough the land flat, or on broad lands, and harrow in the seed: but observe well that the soil is dry before you go on with your ploughs; which is an universal rule, that ought never to be deviated from.

CARROTS.

THIS is the season for sowing carrots: *February*, if the weather is unusually dry, is preferable; but, upon an average of seasons, the work will not be expedient till *March*. Plough the land in the common manner, but flat, and sow broad-cast about four pounds of seed to an acre, and harrow it in at thrice. If the weather is unusually wet, you may be prevented from getting on to the land; but, if possible, delay it no longer. The proper soil should not be mistaken through common notions, nor confined to a compass much within the reality. It is a general idea, that nothing but sands will do for carrots; but this is a most mistaken notion: the best soil in the world for them is a sandy loam, rather light, but moist, of a great depth; in which you will find very little dif-

68 THE FARMER'S

not answer so well; for the pease are very apt to fall into the intervals, and be damaged by the horse and plough: an evil that has very bad consequences. The profitable drilling, therefore, requires a plough, that will sow several rows equally distant at once: the greater the number, the quicker the work is done.

TARES.

IF the weather in *February* did not allow your sowing tares, or at least all your crop, the work must not be delayed longer than *March*, or the crop will suffer. The best way is, to plough the land flat, or on broad lands, and harrow in the seed: but observe well that the soil is dry before you go on with your ploughs; which is an universal rule, that ought never to be deviated from.

CARROTS.

THIS is the season for sowing carrots: *February*, if the weather is unusually dry, is preferable; but, upon an average of seasons, the work will not be expedient till *March*. Plough the land in the common manner, but flat, and sow broad-cast about four pounds of seed to an acre, and harrow it in at thrice. If the weather is unusually wet, you may be prevented from getting on to the land; but, if possible, delay it no longer. The proper soil should not be mistaken through common notions, nor confined to a compass much within the reality. It is a general idea, that nothing but sands will do for carrots; but this is a most mistaken notion: the best soil in the world for them is a sandy loam, rather light, but moist, of a great depth; in which you will find very little dif-

ficulty in ploughing to the very beam of your plough; and all the soil you bring up of the same kind, and as fit for vegetation as the surface. This sandy loam, with these properties, should in general yield good crops of all sorts: the black sands the best. But, at the same time that I mention this sort, as of all other soils the most desirable, still I desire to add, that the crop will thrive to most noble profit on heavy loams, but not clays; good wheat loams, for instance, of the gravelly kinds, that plough pretty easy. At first sight, such soils might perhaps be thought too stiff; but the truth is, no kind of land will yield larger carrots; perhaps the gross crops will be as large as on the best sands: but then the expences will run higher in cleaning, &c. I have known carrots tried on clays, and been made, by dint of tillage and manure, to answer on them; but the husbandry is not advisable.

If you would command your crops of this root, you should, before the seed earth, manure the land with twenty-five or thirty loads of dung *per* acre, pretty rotten: plough it in, and then cover the seed by harrowing. Such a conduct will ensure very considerable crops, and pay better for the dung than perhaps any other application whatever. I have heard of dung spoiling or injuring carrots, making them grow deformed, giving them the canker, and making them ill tasted; but I must remark, that I never remember any such effect in the many crops I have seen in different places. A farmer's object is to produce as great a quantity as possible from every acre, and that must undoubtedly be by the help of manure.

I cannot leave this article, without recommending to all the possessors of the lighter sort of lands that have a pretty good depth, to cultivate this excellent root with spirit; not to confine it

to a little close of an acre or two, but to introduce it, in the course of the crops on a farm, regularly, like wheat, barley, turnips, or any other plant. I am confident none will pay them better; and, if they manage it tolerably, not one on the whole farm half so well: they will find the profit, on an average of soils and seasons, not less than ten pounds an acre clear, which will much exceed the advantage of three average crops of wheat, with the great benefit of its proving a remarkable cleanser, and as ameliorating a crop as any in the world.

PARSNIPS.

THIS root is recommended by several very ingenious writers on husbandry, as superior to the carrot; but of this assertion I cannot but express my doubts, if carrots are sown on proper land, and well managed. It is said, indeed, that

parsnips will thrive exceedingly well on stiff clays, and grow on them to a great size; but the quantity of manure to effect any such growth must, I should apprehend, be very great. Whoever are inclined to try them, should certainly get the seed into the ground early this month, and treat it according to the best method of cultivating carrots. On soils that will do for the latter root, parsnips will not be equally advantageous; but on those that are stiffer, if our accounts are true, they will be a very beneficial crop.

POTATOES.

MARCH is the best season in the year for planting potatoes. The land I suppose to have received its first tillage in autumn; and, if it was inclinable to be rough, to have had a second ploughing in *February*. The first dry season in this month, it should be stirred again flat,

flat, turning in the manure of whatever kind; the best is rotten farm-yard dung; and the more that is laid on the better, unless the soil be very rich. Upon an average of lands, less should not be laid than twenty-five or thirty large loads *per* acre, which should be spread equally, that it may plough in well. As soon as the surface is harrowed smooth, the planting should be begun, which is best performed in this manner: a man holds a triangular dibble in his hands, which has three points, and a place for him to set his foot on it, to strike it into the earth: it so makes three holes at a time, to receive the sets. A boy follows him with them, and drops one into each hole. After this, the land is harrowed twice or thrice, and the business is done. They are in this method set promiscuously, at from nine inches to one foot asunder: the work is done quickly, and is not expensive. Another way is to lay them in furrows after the plough, which

is

is less expensive, but never so well done: they are not planted deep enough, nor are the sets well covered without a very minute attention to the ploughs. In the promiscuous way, from fifteen to twenty bushels of potatoes are wanting to set an acre.

POTATOES ON GRASS.

GRASS-LAND is often broken up for a crop of potatoes, and by most people preferred to any other: the methods are, first, to dung it moderately, fifteen or twenty loads *per* acre; then to dig up the turf, and work in the dung at the same time, and dibble in the sets, in the way before mentioned. You scarcely ever fail of great crops in this method. Another is called the lazy-bed way: you dung the grass as before, and mark it into beds five feet wide, with narrow slips between them, two feet wide :

wide: you then dung the beds about fifteen loads *per* acre; on the dung you lay the potatoe slices, after which the turf is dug thinly up in the two-feet intervals, and laid on the sets, which, with another spit, and the loose mould, completes the covering. This is a good method, but not equal to digging the whole ground, on account of its being left whole for the succeeding crop; but the crop of potatoes is generally good: for, besides the dung, they have the turf below to spread upon, and are partly covered with that from the trenches; so that they lie hollow, and in a rich bed.

POTATOES ON BORDERS.

IF you have any rough borders of fields, that were grubbed up to clear away roots and rubbish the preceding winter, it is very good husbandry to dig them regularly the beginning of this month,

month, and dibble them with potatoe sets, by which means you are sure of getting a beneficial crop; for such places are generally very fertile, from the rotting of leaves and wood; and they will be left ready in autumn for carrying the earth on to the land, in order to level the border, and lay it down to grafs. Such points as these are much neglected by the generality of common farmers, and yet the profit of them cannot be disputed: they are much too fearful of every little expence out of the usual road, and think every shilling so laid out is loss. When some rich earth is thrown out of ditches, or mud out of ponds, it is very often left long enough for yielding a potatoe crop, which either will do in good perfection, but without ever being thought of for that purpose. These are objects, that a diligent attentive man should always have in his eye, and he will assuredly find the profit of them.

POTATOES FOR HORSE-
HOEING.

THE new husbandry has been much recommended for the culture of potatoes, and there have been many instances of great crops gained in this manner. The practice of it is various; but, in whatever manner, the land should be ploughed on to ridges for them, according to the rows intended. They have been tried in equally-distant single rows, at two, three, four, and five feet: in double rows, at one foot, on four-foot ridges; the same on five-foot ridges, and three rows on five-foot ridges. These methods may most of them have succeeded; but the wide distances between the single rows certainly lose too much land. If equally-distant rows were used, three feet must be preferable to the others; double rows on four feet, I should prefer,

fer, and treble on five feet: in which methods you have the advantage of the horse-hoeing culture, without losing much room. Equally-distant, at two feet, with a neat horse-hoe that turned no furrow, only cut the surface of the ground, would probably be very successful. The principle of introducing the horse-hoe is to save some of the expence of hand-hoeing, and at the same time to make the crop flourish better. The advocates for this husbandry acknowledge, that there are more plants in the old method; but they assert, that the tillage of the plough is so much more effectual than that of the hand-hoe, and the admission of air among the plants so much freer, that the loss of number is more than made up in the gain of size. It has been said, however, that horse-hoeing is so effectual, that there is no occasion for dung with it; but let all good farmers be very suspicious of such assertions. If they give up the benefits of
of

of rich manurings for any purpose so imaginary, they will certainly repent it. Potatoes may, in certain soils, be cultivated to profit without dung, but never equally; and on most lands it is absolutely requisite.

CABBAGES.

THERE are two principal seasons for planting cabbage crops, designed for cattle, viz. the latter end of *April* and the beginning of *May*, and about *Midsummer*. The land for both I suppose ploughed the first time at *Michaelmas*: if *February* was very favourable for tillage, another earth was then given, if the teams had leisure for it. Those fields that were to be planted in *April* and *May* must, undoubtedly, be ploughed again in *March*. These stirrings are not to be flat, but the land kept on the ridge by reversing. If you have as much time

time this month to spare from feed earths (which are ever the most important part of tillage) as you will have in *April*, it will be also adviseable to plough those lands that are for the *Midsummer* crop: by which means you will be sure to gain a fine tilth late in spring, which is the best method of destroying feed weeds.

The beginning of this month is the proper time for sowing the seed: for this purpose you must proportion the feed, and feed-bed, to the intended quantity of your crops. A good rule, according to the account we have of this culture, is to sow one pound of seed to every four acres of land intended to be cropped. For a feed-bed, make choice of a rich piece of land summer fallowed, and dunged with rotten stuff. If you design ten acres of cabbages, let the space be a rood: there is no occasion for any spade and rake work; the plough and harrow will do to the full as well. As to

G

the

the sorts of cabbages, it is adviseable to have the great *Scotch*, the turnip cabbage, and the green boorcole; and if your stock is various, as in general, you should allot the *Scotch* to beasts and cows, and for sheep to the middle of *April*, and the turnip cabbage and boorcole for sheep alone, from the middle of *April* to the middle of *May*; by which means you will have no trouble in providing for your cattle throughout the winter: the point, of all others, which has most perplexed our farmers. But I should observe, that the cabbages, planted out in *April* and *May*, must be the *Scotch* alone, and they are to take the cattle from grass, and carry them through till *January*. The directions given above, for sowing in this month, are relative only to the crop transplanted into the field at *Midsummer*.

TURNIP FALLOW.

THE land designed for turnips, I suppose to have been ploughed from a stubble at *Michaelmas*; in this month it should receive the second earth, which is very necessary, that you may, by harrowing well, or by another stirring in *April*, if the land is stubborn, be able to make it so fine, as to ensure a thick crop of weeds in *May*; a succeeding ploughing turns them in, and quite destroys them. This is a method that is very effectual in destroying feed weeds, and particularly suits turnip fallows, as it is a crop that requires a very fine tilth, whether the land be foul or clean.

SOWING CLOVER.

MARCH is a principal clover season for sowing with barley or oats, that succeeded either a fallow or an enriching fallow crop. The proper quantity of seed for an acre of land is twenty pounds. Many farmers sow much less; but it is a very faulty practice. There are two methods of covering it: one by harrowing, when the barley is sown, and by rolling, when the barley is rolled after it is up: this difference is occasioned by clover harrowed in with the crop of barley, in wet seasons, very often spoiling it, from a too great luxuriance of growth.

In the management of a farmer's crop, he cannot give too much attention to clover. I do not think a better rule can be laid down, than sowing it with all the barley and oats on a farm. More of those crops should not be cultivated than
proper

proper to sow with grasses : if there is more, it must be from bad husbandry in second cropping. In farms chiefly arable, this necessity is so great, that, with a different conduct, a man can expect nothing but losses. In such farms, the dependance for the cattle is on this grass alone. What fatal effects, therefore, must follow a neglect of cultivating a sufficient quantity of it ! The farmer should consider well the profit of clover, before he sows spring corn without it : the expences consist in nothing but seed, which scarcely ever amount to more than five shillings an acre. Now, what other crop can he sow, that will cost him so little ? But the product is as considerable, when well managed, as that of any other plant mown for hay : it yields two crops of a great burthen ; and, in the feeding cattle, it much exceeds, for horses, sheep and hogs, any common grass land. But the great excellency of clover is its cleaning and ameliorating

the soil: if the seed is sown with a first crop of corn, while the land is in good heart, and free from weeds, you may keep it under clover from one to three years, and then break it up, either for wheat or oats on one earth, and be sure of having an extreme rich, as well as clean crop of either: an object, considering the lowness of the expences, and other circumstances, of very great consequence. While the land is under clover, it is undoubtedly fallowed only without the expence of common fallows. Of this fact there cannot be a clearer proof, than the great crops of wheat gained after it on only one earth. Was clover an exhausting plant, should we see this so often? If any wheat crops are peculiarly favourable, and generally successful to an uncommon degree, it is the clover-land ones.

Let therefore the good farmer take a resolution, to sow no barley or oats without clover. If he religiously follows this maxim,

maxim, and never sows it with a second or third crop, it is impossible his lands should be in bad heart or foul. So much of his farm will be under fallow crops, and he will be able to keep such considerable stocks of cattle to raise manure at home, that his fields must always be in excellent heart, very different from those of his slovenly neighbour, who is eager after nothing but corn.

SOWING RAY-GRASS.

THIS grass is very valuable on several soils; but the cultivator should be careful of introducing it on improper land. Mixed with clover, it is of great use on most light soils; but on heavy, wet loams or clays, it is as pernicious a weed as a farmer can throw on his land. On sands, sandy loams, gravels, or poor gravelly loams, &c. it improves the clover, especially when mown for hay:

clover and ray-grass hay, mown early enough, is equal to any. For feeding, its principal use is early in the spring, when the value is extremely great; for it is the first grass commonly sown by farmers that shoots. With good management, you may, in general, command a fine bite for sheep and lambs by the middle of *April*, which is gaining a full month on any country in general. If the clover and ray-grass be sown with a first crop of corn, the land clean and in good heart, it will be ready for the sheep by the beginning of *April*. The importance of such food is then very great, and should, on no account, allow of any undistinguishing censure of this grass. It is an undoubted fact, that many parts of *England* would suffer infinitely, if the farmers were deprived of it; and some of those parts are among the best cultivated in the kingdom. Ray-grass is frequently sown too thin: it is almost a maxim, that you cannot sow grass-seeds

too

too thick. If it is sown alone, four bushels an acre will not be too much: if with clover, twelve pounds of the latter, and two bushels of ray-grass, will make a good covering.

SHEEP.

THIS month must finish the feeding your sheep on turnips: if they are kept longer on them, the barley or oat crop will be ruined, and but little good results to the sheep; for the roots, after the second branches are run, become hard and sticky: so that no cattle, unless very hungry, will eat them. About the middle of the month, therefore, you should manage to have the last of your turnips quite done, and put all your stock to cabbages, which are now in high perfection. The profit of this management cannot fail of being very great; for the difference of keeping your fatting sheep,
and

and ewes, and lambs, longer in a food grown very indifferent, and of which they are tired, or changing them to a fresh sort in full perfection, must be prodigiously great.

At this season the stock, whether ewes, lambs, or fatting sheep, must be kept extremely well: if they are pinched now, all the money before expended will be nearly thrown away. Turnips can no longer, with any propriety, be depended upon. If the farmer has not a great breadth of ray-grass, or some other grass, cabbages are his only dependance, and he must either possess a crop of them ready for this season, or sell off his fatting sheep sooner than he desires, and stop the growth of his lambs, at a time when they ought to be half fat. By the middle of *April*, indeed, the natural grasses will afford a small bite; but feeding them at that season is absolute ruin to the crop of hay.

In

In fattening wethers, the great object is to keep from selling till the middle of *April*: then to begin, and keep killing till the end of *May*, is the most profitable conduct; for the price a butcher will then give much exceeds that of two or three months earlier. How advantageous, therefore, to have a field or two of cabbages ready to take all the stock by the middle of *March* from turnips; or, if cabbages be the chief crop, to have enough of them to last till *May*.

In the eating the crop, attention must be given to the soil: if it is dry enough, they may be eaten on the land much better than turnips; because they stand above ground; but, if the land is wet, they should be cut and given the sheep on a small grass field.

COWS, &c.

THROUGHOUT this month, keep your cows, lean and young cattle, close to the farm-yards: on no account let them wander over any of your fields. If they even steal into a grass field, and it be a forward spring, so that they get a mouthful or two of grass, it will prejudice them not a little; for they will not be so well contented with their dry meat after: besides, they poach the grass, and you lose much manure; for these reasons, it is very adviseable to have all your yards (I suppose water to be in them) locked up, and then it will not depend on the memory of servants. Keep every place well littered with stubble, straw, or fern: remember that your omitting this attention will be just

so

so much mischief to all the crops of your farm, in the article of manure.

At this season a farmer, who has weaned any calves, should observe, that they are well and regularly attended: they should have a small yard with sheds to themselves, and have their bellies full of the refuse leaves of the cabbages given to the milch cows, with whole ones, if they were not sufficient. Young cattle should be kept well, or they will come to a very poor size: their dry meat should be good hay.

THE TEAMS.

A diligent farmer will now see to his horses and oxen performing good days works. In sowing time, he should not let them work less than ten hours; but this he will not be able to effect, if the plough-

ploughmen have to take care of their horses. It is best to have horse-keepers, for the mere attendance of the teams: so that the men, who hold the ploughs, may have nothing to do but the mere ploughing. Let the horse-keeper have the horses fed and harnessed ready for the ploughman, to be in the field by six o'clock: at eleven they should come home for an hour and a half to dine and bait, during which time the horse-keeper is in attendance again. At half an hour after twelve they should go out again, and work till half an hour after five, when the horse-keeper should again take the teams. By this method a pair of horses, in a well-made plough, will, without any driver, plough an acre and half very easily; and no object is more important, than the ploughs doing good days work in the spring of the year. The consequence especially of making the most of dry weather in *March*, is extremely great:

great: one acre ploughed and sowed then may be fairly worth two that are left till the beginning of May; From long observation of the value of dry seasons for tillage in this month, must arise the old proverb of, *A peck of March dust is worth a king's ransom.*

WATER-FURROWING.

IN all new sown or ploughed lands, as soon as a field is finished, let the ploughs, before they leave it, strike the water-furrows, and send in men directly with spades to scower them; that is, throw out the molds. In all lands, sown with clover or grasses among the corn, they should be dug a spit deep, and the molds thrown carefully out. Many farmers are not attentive enough to this point: they only scower the furrows; but they should consider how

how long the grass is on the ground, which probably may be two or three winters; and consequently it must be very material to the crop to lie dry all that time, which scowering alone will not effect.

APRIL

APRIL.

BARLEY.

THE barley crops not sown in *March*, must be in the ground by the middle of this month without fail, or a poor crop may be expected. The land I suppose to lay as thrown up in the autumn before: so that, whenever sown, it is on the spring earth. This supposition is absolutely necessary; because, if there had been previous ploughings in *March*, or the end of *February*, the seed should then have been sown; excepting, however, turnip land, which broke up at first too rough to sow, which will sometimes happen. The farmers,

H

in

in some parts of the kingdom, will put off their sowing till the last week in this month, and the first or second of *May*, for the sake of gaining time for giving three spring earths; but they lose more by far from late sowing, than they gain by making their land fine. If clover is, as it always ought to be, a principal object, and they had not the land fine enough before, delays must be made; but still they can scarcely be owing to any thing but bad husbandry: for a farmer should always have such events in view, and give the tillage before winter, on lands not cropped with plants that stand till the spring. The utmost exertions of good husbandry should be made to reconcile jarring circumstances, when they cannot be totally prevented. These observations on barley are equally applicable to white oats.

WHITE PEASE.

THIS is the proper season for sowing the white boiling pea. The land should be light, either sandy, gravelly, or a light loam, in good tilth, and the seed harrowed in, about three bushels to an acre. It is a very profitable crop on such soils, killing the weeds entirely, if the pease are luxuriant, and much ameliorating the land; but on clays, and heavy wet loams, the culture is by no means adviseable, unless they are well drained, in good heart, and excellently pulverized.

BUCK-WHEAT.

THE lands designed for buck-wheat, in *May*, should be well tilled this month, ploughed twice, and harrowed three or

four times. It is not necessary for that grain, but for the grasses you should always sow with it, and for that most important object of making all the seed-weeds grow, in order to turn them down by the following ploughing. This *April* preparation marks the land for buck-wheat: I shall, therefore, take this opportunity to advise the farmers in general to try this crop more. Nineteen parishes out of twenty, through the kingdom, know it only by name. It has numerous excellencies, perhaps as many, to good farmers, as any other grain or pulse in use. It is of an enriching nature, having the quality of preparing for wheat, or any other crop: this is a certain fact, and cannot be disputed. One bushel sows an acre of land well, which is but a fourth of the expence of seed barley. You should not sow it till about the middle of *May*: this is very important; for it gives you that valuable time in the spring, enough

to kill all the seed-weeds in the ground, and brings you under no disagreeable necessity, from bad weather in *March* and *April*, to sow so late as to hazard the crop; frequently the case with barley and oats. It is as valuable as barley; where known, sells at the same price, and, for fattening hogs and poultry, much exceeds it. It is, further, the best of all crops for sowing grass-seeds with, giving them the same shelter as barley or oats, but not robbing them at all.

MADDER.

THIS is the principal season for planting madder; a work of very great importance in modern husbandry of the improved kind. I suppose the deep tillage to have been performed in *October*, and the land thoroughly water-furrowed. Early in this month it should be ploughed again, and harrowed fine; and, towards

the latter end of it, another earth given, and again harrowed: it is then in order to plant.

The sets are to be slipped from an old plantation; when they are about two inches above the ground is the proper size, and they should be slipped off as much below the surface as you can; because they will then have the better chance of growing; and, as fast as they are taken up, let them be thrown into tubs of water. Other hands are to be employed in planting; in which work you must be ruled by the method of disposing the beds. That which has been generally practised, since the society offered premiums, is equally-distant rows, two feet asunder, the land flat. The merit of this system on dry lands, that do not want superficial draining in winter, may occasion success; but I much question it: for the horse-hoeing (a practice always recommended) in such narrow intervals, must cut and tear

tear the branching roots too much. For this reason, as well as laying the land dry in winter, ridge-work is vastly preferable; either three, four, five, or six feet ridges. If the first, only one row can be set on each. On four-foot ridges, two rows at nine inches, or one foot, may be planted; and, on wider ridges, as many more as the planter chuses, so that two feet six inches, or three feet, be left for horse-hoeing; but I should never recommend more than three rows. The planting should be performed with care: women or children should drop the sets, and men follow to plant them. In this month, there can be no danger of their not growing, especially if the land is in as good tilth as it ought. Watering will scarcely ever be necessary.

LICQUORICE.

THE licquorice culture is generally carried on more completely than that of madder, which is owing to the nature of the root. Madder spreads its roots horizontally, more than perpendicularly ; so that good tillage, and plenty of food on the sides of the bed make amends for depth ; but this is very different with licquorice, whose root is a single tap one ; so that the whole crop depends upon the *depth* of cultivation. Hence we find, that the planters dig the land four feet deep : this appears vastly expensive ; but it is greatly lowered by always planting on the same land : so that one digging does for taking up one crop, and planting another ; a saving that renders this culture preferable to ploughing. The perpendicular growth of the crop also makes it necessary to plant the sets much nearer

nearer than madder ones. For instance: double or treble rows, at nine inches, with two feet spaces for horse-hoeing.

LUCERNE.

THIS plant is one of the most famous that is cultivated in *England*: it has, particularly of late years, been more the object of conversation than most others, and opinions about it have varied as much. I shall not enter into a deduction of a general nature; but only point out the best methods of treating it, in each of the three grand divisions, which modern writers have thrown the culture into, viz. broad-cast, drilled, and transplanted.

If you sow broad-cast, it should be with buck-wheat, upon land very rich and good, but not wet, and as clean from weeds as the most perfect culture can have made it. The proper quantity of
seed

seed is twenty pounds to an acre. It should be sown on the flat, and covered by three harrowings. There cannot be a doubt, but lucerne will answer to great profit in this way, if the land is extremely rich, and of a deep staple; but on sands, poor gravels, lime-stones, or chalk soils, I question whether any great success will attend it.

For drilling this month, which is the prime season, the land I suppose to have been thrown on to the ridge in *October*, and well water-furrowed, and to have been ploughed and harrowed well in *March*, and the first week of this month. The last of those ploughings should have thrown it on to five-foot ridges, after which they should be harrowed with drill harrows. About the middle, or latter end of the month, those ridges should be manured, at the rate of twenty loads an acre of some very rich compost, that is fine, and will not impede either the harrows or the drill. This should be

be turned in by another ploughing, and, at the same time, arched up; then harrowed again, and drilled with three rows, one foot asunder. About five pounds of seed will be sufficient. There is no drill culture of lucerne that exceeds this. The transplantation will be treated of under another month.

Drilled lucerne is an extreme valuable crop on rich or well-manured lands, and with good management. A spirited farmer should therefore determine to cultivate a good quantity of it, that he may at least have a sufficiency for all those purposes, to which it is particularly adapted: these are, feeding horses with it green in the stable, mown every day; keeping milch cows and young cattle, and work oxen; also for feeding swine: but, for feeding horses, its use is so very great, that no farmer should be without a proper quantity for keeping all his teams on. One thorough good acre of lucerne will keep four or five horses, from

from the first of *May* to the end of *October*: a degree of profit, which no other grass will equal. I cannot therefore avoid particularly recommending to all husbandmen, drilling a few acres of so excellent a grass, that will be sure to pay him so amply for his trouble; nor should he neglect good manuring, or constant and diligent attention to keeping his crop perfectly clean from weeds.

SAINFOINE.

THERE are several parts of this kingdom, in which the farmers could not possibly pay half their present rents without the use of this grass. On dry lime-stone and chalky soils, or on any very dry, sound land, no matter how poor, it will thrive to extraordinary profit. *April* is the proper month to sow it in: the land should be perfectly clean, and free from weeds, and the seeds of weeds;

and this is the only circumstance required. It matters not how poor it is: sow it with barley or buck-wheat; the land in as fine tilth as possible, and the seed covered only by one harrowing, if the harrows are heavy, or by two, if they are light, and let it be when the land is perfectly dry. Upon the soils proper for this grafs, no man can sow too much of it; for no other use of the land will pay near so well. It will, on very poor soils, not worth more than from one shilling to two shillings and six-pence *per* acre, yield a ton and half of hay, or a ton at the least, at one mowing *per* acre, and afford a considerable after-grafs besides. Now, the use of hay is so universal, that such products can never want a market; nor such land, thus improved, fail of becoming a vast source of profit to whoever has spirit enough to pursue such a beneficial conduct. The products and profit of such land in tillage, or in a sheep-walk, are quite

quite contemptible to them, when sown with sainfoine. The proper quantity of seed is from four to five bushels *per* acre: it flourishes so well broad-cast, that there is no inducement to attempt it in the drill method.

BURNET.

THIS is the proper season for sowing burnet; and the best method of cultivating it is, to sow about a bushel *per* acre, with either barley, oats, or buckwheat, and to cover it at three harrowings. It flourishes extremely well on most soils; but is not like sainfoine in preferring the poorest: on the contrary, it yields a produce proportioned to the goodness of the land; but will do on those which are very indifferent. The great use of it is for spring feed for sheep. If left of a good height in the autumn, it will improve through the winter,

ter, notwithstanding the severest frost, and be ready, in full luxuriance, early in the spring. This is a very great excellency, and rivalled in it by no other grass. Burnet does extremely well mixed with ray-grass: about three pecks of burnet, and two bushels of ray-grass, to the acre.

S H E E P.

THIS is the month that tries the farmer more than any other in the year. In the whole range of husbandry, there is no point that puzzles the farmers more, than providing for their flocks through *April*, and the first week of *May*. It proves the good husbandman as much as any other article in the most extended farm. The common management is to depend on turnips and hay; and, when the former are done, to turn them into a piece of rye sown on purpose,

purpose, or into the crops of wheat, to feed them off; and these resources not being proportioned to the want, they let them run over most of the clover and pastures of a farm; by which means the crops of hay, and feed for large cattle, are greatly damaged. Bad as such a system of management undoubtedly is, yet it actually forms the husbandry of three fourths of the kingdom, and the bad consequences are felt so strongly, that the number of sheep, on all such farms, is governed by the food in *April*. None of them are stocked properly with sheep throughout the whole year, for want of more food at this season: but there are other farmers, who have felt such inconveniences so strongly, that they have taken a few steps to remedy them: they keep their turnips as long as possible, so as to make their shoots an object of sheep feed; and they every year sow a piece of clover and ray-grass on land in pretty good heart, to be ready

ready in the spring to take their flocks from turnips, and keep them till the general turning to grasses arrives, which is about the tenth or twelfth of *May*.

This conduct, I must observe, is an improvement on the other; for it gets rid of three great evils: depending on rye, which is a most paltry feed, and never pays expences; feeding the wheat, which is pernicious to the crop; and turning too soon into the general pastures.

But, at the same time that it effects this advantage, it is open to some objections, which require a further improvement.

The keeping the turnips long in the spring is very bad husbandry; it damages greatly the barley crop, both in robbing the land, and in preventing its being sown in proper time: nor is the food of great consequence; for you must have many acres of turnip tops to keep any flock of sheep; and, as to the roots, they grow so sticky and hard after the tops are at all advanced, that

I

their

their value is much declined: then in respect to ray-grass, the clover mixed with it, at this season, is seldom above three inches high; and a vast breadth of ground, to a given stock, must be assigned to keep the sheep from the middle of *April* till the 12th of *May*.

It is surprising the number of acres of that young growth necessary to keep an hundred sheep and lambs: so that these farmers, although they manage to spring feed more sheep than the worst of their brethren, yet effect it at a great expence, and at last not in any degree comparable to what they might do.

A turnip should never be seen on the ground after *March*; for the month of *April* the farmer should have a field of cabbages ready, which, yielding a vast produce on a small breadth of ground, reduces the evil greatly of a late spring sowing; and, if he manages as he ought, totally excludes it, by planting cabbages every year on the same land.

The large *Scotch* cabbage will abide the severest frosts, and will not burst: it will last through *April*. The turnip cabbage will last till the middle of *May*; and, though it runs for seed, yet the bulb will not be hard or sticky. The green boorcole may be fed off several times; it is impenetrable to frost, and will make long shoots in the very depth of winter. If I was to recommend a cabbage culture, I should prefer the *Scotch* for *April*, on account of its vastly superior produce; and the two latter sorts for the first fortnight in *May*. A few acres of land would, in this method, support a very great stock of sheep; as may be judged from an assertion of a very experienced cultivator of cabbages, that one acre of the great *Scotch* will winter fifty sheep.

Another crop for feeding sheep in spring, which is of particular merit, is burnet: an acre of it, managed properly, will at this season yield three

times the food of an acre of clover and ray-grass. It should be five or six inches high in *November*, and left so through the winter. Burnet has the singular quality of maintaining its green leaves, to their full growth, quite through the severest winter : so that, under deep snows, you find an amazing luxuriance of vegetation. From *November* to *February* the crop will gain two or three inches in growth, and then be ready for sheep. It will be better in *March*, and, if kept, ready in *April*, not only for sheep, but for horses, cows, or any other stock. This is a product which no clover, or ray-grass in the world, will equal ; and it is the peculiar use of burnet, to which it should ever be applied.

COWS.

IT is no object to a good farmer to get his cows out of the farm-yard this month, especially if he has a provision of cabbages and straw, as he ought; he must be very amply provided with grasses, indeed, to do it to a good purpose, as his flock of sheep must be the first object for spring feed. Besides, the raising great quantities of manure in the farm-yard is so important an object, that he should keep it in sight as long as possible: turning out any cattle before there is a thorough good bite for them, is but trifling, and it is very unprofitable; for a field, so begun, will not last proportionably with another of a proper growth. The milch cows should have their bellies full of cabbages throughout this month, with straw before them, and always kept both in the yard and

house well littered. The lean flock of dry cows should likewise now have an allowance of cabbages.

HORSES.

KEEP your horses close to the stable throughout this month: do not think of turning them out yet, and have plenty of litter, that they may continue to raise much dung. This is so busy a time, that you should have a close eye to the work your teams perform: remember, one day now is worth two by and by: follow the directions laid down last month, in making them do ten hours work every day.

OXEN.

THE ox teams, at this season, being kept to pretty sharp work, should be well

well fed. Give them good hay, and a daily allowance of cabbages. If they are large beasts, they should have fifty pounds of cabbages each every day. This is a rise, among many others, that will be found to shew the great consequence of having plenty of cabbages,

H O G S.

THE flock of fatting swine should now be all gone; but the fows, pigs, and lean hogs, require good attendance: there is nothing yet for them in the fields: they must be kept, therefore, close to the farm-yards, where the thrashers (who should be kept at work quite through this month) will partly supply them with food; and your wash cisterns, and winter stores of carrots, parsnips, potatoes, &c. will keep all in good heart.

POTATOES.

THE latter end of this month, the land planted with potatoes should all be hand-hoed over the whole surface, to cut up weeds clean, and loosen the earth. This management is known only in the neighbourhood of *London*; but it should be extended over the whole kingdom, for the excellence of it is indisputable. The expence of hoeing, when there is a clear space to cut, is trifling to that of a crop, and, consequently, the succeeding cleaning, which the potatoes receive after they are up, is performed at a much less expence, on account of this operation, and, at the same time, in a more effectual manner.

CARROTS.

IF the carrot-seed was sown very early, the crop will be ready for the first hand-hoeing the latter end of this month. The rule is, to give it as soon as the young carrots can be distinguished from the surrounding weeds; and it should never be done in wet weather. The men must use three-inch hoes, with handles about two feet long; and they must move on one knee, in the way gardeners hoe onions, &c. If the crop is pretty full of weeds, they must not attempt it standing with common hoes; for it is very nice work to distinguish the young carrots. This hoeing, if the crop is full of weeds, cannot be done under thirty shillings an acre, where the daily pay is one shilling and two-pence a day.

CABBAGES.

APRIL is the grand season for planting the crop of autumn-sown cabbages; it is a work extremely easy to perform, and not at all expensive; but it is necessary to manage it in a judicious manner, so that it may be done to the best advantage. Just before planting, the land is to be ploughed from the ridges of the last earth, arching them up; this earth should turn in the manure; then the ridges are to be harrowed, and one row of plants set along each: this is for four or five-foot ridges; but, if you plant on three-foot ones, instead of arching up, you only reverse, and plant one row along the top, in the same manner as on the others.

Women or boys should lead the way with the plants, and drop them, as nearly as they can, where they are to be planted:

then

then the men follow with dibbles, and set them: the work goes off quickly, and is not expensive. Upon an average, it may be done in single rows, four feet asunder, for from four shillings to five shillings an acre. Keep the men at it as long as they can see; for, if the weather is very dry, it will be an advantage to the plants to have dews and coolness of the night succeed the planting.

WATER-FURROWING.

THIS is a work that should be well performed on the new-fown lands, as soon as the tillage is finished. Very small savings in the omission of this work, will be attended with certain and great losses.

TURNIP FALLOW.

THE fields intended for turnips should receive one ploughing in this month, which should remain a little while, and then have harrowings enough to make all the seeds of weeds grow, that the tillage, in the succeeding month, may destroy them: these ploughings should be on the flat.

WOODS.

ALL work in woods should conclude the beginning of this month, or damage will ensue from carting and from cattle. Good husbandmen will observe to keep their woods well fenced from cattle; for the mischief they do is very great.

HEDGING.

THIS month must conclude the business of fences. It is bad husbandry to cut any hedges after *April*, nor do you give the plashes a good chance afterwards : they will not be so sure of growing. Observe also now to bring home all the faggot wood arising from the hedges : it should be left no longer.

CLEAR GRASS-FIELDS.

THE beginning of this month you should attend particularly to the clearing your grass-lands from all rubbish that may affect the young grass ; such as the cores of ant-hills, the sticks and bushes that are left after hedging, and whatever else may happen to be found, that will obstruct the scythe. Mole-casts should
be

be spread about with a spade; and, being nothing but fine loose moulds, will do good to the grass: the keeping the meadows and pastures in a neat husband-like manner, requires a good attention of this sort.

ROLLING.

AFTER the grass is cleared, in the manner mentioned in the last article, it should be rolled to level it for the scythe: the roller must be just of weight enough to level worm-casts, and crush small molds; that is, a size larger than a common barley roller. Some gentlemen are extremely fond of using very large and heavy rollers, thinking they are beneficial in proportion to their weight; but this idea has been much disputed of late. Another practice, founded on direct contrary principles, has begun to take place; that of scarifying grass with a plough,

a plough, consisting only of coulter, or harrow teeth. The advocates for this practice assert, that the burthen of hay (not the beauty of grass as a lawn) is much encreased by loosening the surface, for the roots to have the power of a fresh vegetation: that the fault of most pastures is the being quite bound and hard; rolling encreases this tenacity, and is consequently pernicious. Experiments are mentioned which prove, that grass-lands are infinitely improved by this operation of scarifying; and, further, that its use is extremely great to precede manuring grass-lands; for that much difficulty is found to get the manure below the surface, for the roots to feed on: whereas, if it be scarified well, the ground is opened so much, that whatever you spread on it gets at once to the roots; consequently a small quantity, so applied, goes as far as a much larger laid on in the old way. It must be confessed, that all this reasoning appears very just,
and

and perfectly consonant with the ideas we have of good husbandry in most other parts of the management of soils. It however is highly worthy of a fair trial, that the truth on every soil may be known; for it is a vast expence that some persons put themselves to in rollers, amounting so high as fifty pounds apiece.

HOPS.

THE beginning of this month is the proper time to plant hops. I suppose the ground to be ploughed deep, and manured in autumn, and to have received a common earth in *March*, and been harrowed well. Another ploughing should be given before planting, and the land left finely harrowed: then send in a plough, held by a man used to drawing straight furrows, and let him strike furrows, equally distant, eight feet asunder, which

which he will quickly do, as exact as you could lay a line. When he has finished, send him to cross them from another side of the field, in the same manner; by which means the piece will be struck into squares of eight feet. When the furrows cross each other are the spots to make your hillocks, they will then be so placed, that you may horse-hoe between the rows both ways, which will be a great advantage, and save much expence in digging.

M A Y.

FARM YARD.

ABOUT the twelfth of this month, the farmer may calculate, that he will have a sufficient bite of grasses to leave off foddering entirely, and before that he should not think of it; for, if cattle are turned into grass not sufficiently advanced in growth, they will require such a number of acres, that your mowing ground will be greatly curtailed. As soon as your yards are cleared, the dung in them must be turned over, and mixed carefully with the stuff beneath, whether it be chalk, marle, turf, ditch earth, or whatever sort. For this pur-

purpose, you must set many hands to work on it, so as to get it done as expeditiously as you can; because it should lay a little after turning, before it is carried on to the land. It thereby undergoes a fresh fermentation, and becomes more rich and rotten. The method in which the men should do this work is, to begin and throw the dung up against a wall, or into some vacant space, so as to have the command of a trench to work in: they should always keep this trench three or four feet wide: then they draw down with dung crones the dung, and breaking it to pieces with forks, throw it up on the part already mixed, in a spreading manner, so as to cover all the chalk or earth. In this manner they proceed with the dung, to the breadth of about eighteen inches, or two feet, till they come to the stuff under it; all which they pull down with pick-axes or mattocks, and, when it is in the trench, break it further to pieces,

so as to have it fine; that is, no pieces larger than a man's wrist. If water hangs in any places in their trench, they should have a water-bowl ready to throw it on to the part they have mixed. If this work is well executed, you will have a large hill of excellent manure, ready to lay on to the cabbage or turnip land, to be turned in by the last earth.

Respecting the quantity; therein lies the proof of your being a good farmer; perhaps, the most important, convincing proof, that a farm can offer. If you have managed well, you will have from fifteen to twenty loads for every head of great cattle, and about ten loads for every hog, not reckoning pigs: not above a third of the whole marle or earth. Every trussed load of straw, trampled into dung, will make you six cart ones of dung, exclusive of any mixture. The loads I mention are large cart ones of forty bushels.

But the earth, which has land under
the

the dung all winter, and received all the urine of the cattle, must by no means be reckoned as inferior to the dung itself. It is become a rich manure, without mixing with dung, richer than the best of marles; and I am well persuaded, that this retention of the urine in it is of such consequence, that the whole compost, when well mixed together, will be better than if chalk or earth had been brought into the yard, at least for most soils: but, that the favourable circumstances of the conduct much exceeds the expence of it, for all soils, cannot for a moment be doubted.

But a very great recommendation of this farm-yard system is the cheapness of thus manuring land: the farmer will find, that he can, in no other method, manure at near so small an expence. All purchased manures come much higher; many of them five times more expensive, in proportion to their value.

In many situations, there are no ma-

nures, of any sort, to be purchased, in which the farmers, if they do not adopt such a plan as I have mentioned, must give their land a poor chance; for it must be an admirable soil, or a most excellent course of crops, to render manure unnecessary.

CATTLE IN GRASS.

WHEN you turn out your cattle, whether cows, fattening beasts, or young stock, it is highly requisite to consider the best method of feeding the grass: there are two opinions on this point directly contrary to each other. First, it is asserted, by one set of graziers, that, let your grass to be fed consist of ever so many acres, that the cattle should have it all at once: if it is divided into eight or ten fields, the gates of all to be set open, for the stock to feed where they like. Secondly, the other set advance, that

that large fields, of fifty, eighty, or an hundred acres, should be divided, that the farmer may change his stock from one to the other, and give the grafs fresh and fresh. And each of these parties assert, that they know themselves to be right from experience. But that is impossible; one must, undoubtedly, be wrong. Let us consider the point from reason: it is one that will never be decided *fairly* from experiment; for two pieces of grafs, each of eighty or an hundred acres, contiguous and *perfectly* alike, are not to be met with in the king's dominions; and, if they were, two sets of stock, exactly similar, would not be found. The divisions into fields by hedges and ditches, for the purposes of draining and shelter, is not the enquiry, the comparison not being fair; as such divisions may be fed at once, by setting all the gates open, as well as one field. The enquiry is, whether the cattle will spoil the grafs more in one way than in

the other; and whether the grafs will go as far in one as the other, by fattening or feeding the beasts as well. The argument of giving the grafs fresh and fresh appears to be a vague one; for it supposes that the cattle will not eat it the same, if they have the whole range at once, which is certainly a mistake: they will not be seen in the evening where they were feeding in the morning, but vary their food in the manner most agreeable to themselves; and we may in general observe, that the sagacious animals, when left to their own conduct, manage such points much better than we can for them. As to the treading and spoiling the grafs, it is an equal objection to both methods; for I do not see any difference: the legs of the beasts are not tied in small closes, any more than in large ones.

In case all the smaller pieces have not water, the objections to feeding them separate are much greater.

I Further,

Further, in the stocking grass lands, the farmer should attend well to the proportion between his stock and the quantity of his feed. Let him remember, when he stocks his grounds, that he should be pretty nice in this proportion; for, if he overstocks, his loss will be certain and great; and, if he does not throw in as many cattle as he ought, then he will suffer in his profit.

There are two principal divisions in fattening: to buy in your beasts in *October* or *November*, and put them to straw till the end of *February*: then to begin their fattening on turnips, and continue it through *March*; from thence to the middle of *May* on the large *Scotch* cabbage, and then to turn to grass, and kill in *August* or *September*. The other scheme is, buy in smaller beasts the middle of *May* lean, and sell them fat from the grass in the *October* and *November* following. Where winter food is raised with spirit, and the farmer takes
a proper

a proper care to provide great plenty of litter to turn into dung, the first method is much the most profitable: but, where either of these requisites are wanting, the latter is preferable.

BUCK-WHEAT.

AFTER the tenth or twelfth of *May*, to the end of the month, is the proper season to sow this grain. So late a time has offered the opportunity of perfect tillage to destroy weeds, and, of course, the land is fine, and in good order. Plough once more, and harrow in the seed on one earth. It is a most profitable crop, and especially on all (except very heavy soils) land that either requires late sowing, or that you are disappointed in the design of sowing soon enough to barley. Late-sown crops of the latter grain are seldom good enough to pay expences: in such cases, it is of

very great utility to substitute buck-wheat; for I do not think the soil exists, on which a crop of buck-wheat, sown in *May*, will not exceed in value a crop of barley sown in *May*; and yet, in many tracts of country, it is a common custom to sow barley so late as that season.

L U C E R N E.

THIS is a very good season to sow lucerne in: this grass being a perennial, and, when well cultivated, yielding an immense profit, too much attention cannot be given to lay the seed in the ground with all possible advantages; that is, the land should be perfectly free from weeds, very rich, and as fine as any onion bed: now all these requisites a man may not be able to procure in *April*. In such a case, let him not sow in *April*, but wait till *May*; and this, whether
you

you drill or sow broad-cast: if the latter, let it by all means be with buck-wheat, which is far preferable to sowing it alone.

SAINFOINE.

SOW this grass also with buck-wheat: you need not fear success, if your soil be proper; for hay, in countries where natural meadows and pastures are scarce, sainfoine is so valuable, that this culture should be attended to more than it is. It is a common notion, that this grass will thrive only on lime-stone lands or chalky soils; on those that are quite dry, and have, at the same time, a stratum of rock or chalk, to prevent the roots penetrating into a wet clay, as it is well known those soils have no such bottom. This circumstance excludes very extensive tracts in many parts of the kingdom, where sainfoine would be a most valuable acquisition.

acquisition; but it is much to be regretted, that we should not experimentally know the truth of these assertions. It is a misfortune, that some experiments are not published to prove, that this grass will not thrive on gravels, loams, &c. &c. particularly those that are dry. General ideas, the result of ages of practice, are admirable guides to tell us, what *will do*; but they are miserable conductors in informing us what *will not do*. The common farmers never blunder in the general practice of the former; but almost always in the latter.

BURNET.

THIS grass may be sown in *May* with buck-wheat, with as great propriety as at any other season; nor do I think such an opportunity should by any means be neglected in favour of an autumnal sowing, which was the direction
of

of Mr. Rocque ; for two crops out of three will be lost by that management.

CARROTS.

IF the carrot crop was not hand-hoed last month, it should be done this : the men should execute it with four inch hoes, moving along on their knees, as directed in *April*, and those crops, which were then hoed for the first time, will require an harrowing early in this month, and a second hand-hoeing about the last week. The harrowing will not damage the young carrots, nor pull up one in twenty ; but it will displace the weeds set again by rain, and check the growth of those that are got up since. The other hand-hoeing should be performed with nine-inch hoes ; the men to stand as at turnip hoeing, and they should set out the plants to the distance of fifteen or eighteen inches from each other.

other. Gardeners do not let them stand further than eight or nine inches asunder; but, when the roots are designed to be of a large size, that is much too little: the crop will, in very good, or well manured land, measure more bushels at a larger distance. These observations are equally applicable to parsnips.

POTATOES.

SOME time during *May*, the potatoe crop will require a complete hand-hoeing, which should be done, with good attention, that not a weed may be left, and the surface of the land be left well cut, and in fine order. Crops in rows should receive, besides this hand-hoeing, the first horse-hoeing, which should be given with a common swing-plough, drawn by two horses, one before another, and turn a furrow *from* the rows, throwing up

up a small ridge in the middle of each interval. *May* is a month that requires these operations to be well and attentively performed; for the weeds grow at a great rate, and, without such an attention, will destroy, or at least greatly damage the crop.

CABBAGES.

THE crop of cabbages planted in *April* will require a hand-hoeing this month. It should be given only to the tops of the ridges, about eight or nine inches around the plants: the weeds should be cut up clean, and loose moulds drawn to the stems of the plants. In about ten days after, the first horse-hoeing should be given, turning a furrow from the plants, and throwing up a ridge of earth in the middle of each interval. This operation will be of great use: it
lets

lets the sun into the ridges on which the plants stand, and consequently sweetens and ameliorates the soil; and it kills the weeds that grow on the sides of the ridges much cheaper than it can be done by the hand-hoe: it likewise pulverizes the earth taken away, and exposes it for some time to the sun, to bring it into fine order for returning to the plants in *June*, when they will strike into it, and thrive the more for such treatment.

The land designed to be planted in *June*, should this month receive an earth to throw it on to whatever sized ridges you intend to plant on. This must not be omitted; because the beginning of the next month will be taken up in carting on the manure;

MADDER.

THE crop planted last month will want a hand-hoeing before the expiration of this month : that work should be done with eight-inch hoes, and very carefully ; for the young plants will not bear rough treatment of any kind, being of a most brittle nature. It will not be adviseable to horse-hoe yet.

LICQUORICE.

THE young crop of licquorice must be hand-hoed in *May*, and carefully hand-weeded at the same time. In common management, this is not well done, owing to the cropping the ground the first year with onions or carrots, both which, or any other plant, are but so many weeds, that rob the principal produce.

WHEAT FALLOW.

IF the farmer fallows for wheat, which is, however, but an unprofitable practice, according to the modern ideas of husbandry, the land should receive an earth this month, to turn in the weeds that have arose on it since the last. The maxim of making the fallows very fine in *April*, to destroy the weeds by a ploughing in *May*, or the beginning of *June*, is in general an excellent one; for how are they to be killed, if they do not vegetate? If the fallows are left rough in the common manner, the seeds of weeds are shut up in the clods: they are broken by the time the wheat seed is sown: must not the consequence be their growing among the wheat? But it has been urged, that on rich clays this practice would not be proper, on account of such spring tillage, as I have described,

cutting in numerous pieces the root-weeds, every bit of which grows ; consequently you would do as much mischief in one instance as good in another ; but, being turned up very rough in large clods, the sun bakes them, and completely kills the roots. It is ever absurd to reason against real experience ; therefore, if a farmer tries the spring tillage, and finds, contrary to expectation, that it fills his lands with pernicious weeds, instead of killing them, he certainly should desist. But I know, from the experience of many persons, that such management as I have mentioned has totally destroyed all seed-weeds, and proved no impediment to the destruction of root ones, by successive tillage through the burning parts of the summer ; not by leaving the roots in possession of large clods, but turning them up to the sun in earth so loose with tillage, that the harrows draw them out, and leave them so exposed that death is the consequence. This is the case with

with the grasses, which are among the worst. Docks, indeed, can be no way destroyed, but by letting them grow, and then digging them up with spades, and carrying them clear away from the land,

HORSE-HOED CORN.

WHEAT, barley, oats, pease, beans, &c. &c. that are drilled on ridges, with intervals left for horse-hoeing, must be well attended to through this month: the rows should be well hand-hoed and weeded at the same time, by the men stooping down to pluck out such with their fingers as they cannot get away with their hoes, without damage to the crop. One horse-hoeing should also be given this month, with the common swing-plough, turning a furrow from the plants, which consequently will throw up a small ridge in the middle of each interval:

L 3

this

this kills all the weeds, and pulverizes the earth of the intervals, ready to throw it back by succeeding operations to the corn. In this horse-hoeing, the plough should go within four inches of the rows: if any corn is buried, it must be uncovered by rakes. In horse-hoeing pease, great care must be taken the trailing branches are not trodden or broken, which should be prevented by banking up the rows first with a hand-hoe, so as to make them incline inwards, from the intervals.

S H E E P.

I suppose your spring food to have lasted till the tenth or twelfth of *May*: then they are to be turned into their summer's grass, in which you must observe to manage according to the nature of your flock. If your flock consists of lean flock sheep, whose only profit is lamb and wool, except folding, then

your business throughout the year, on whatever food, is to keep them in good and healthy order, but to take care not to fat them, for then you will plainly have too small a flock, and your profit accordingly suffer: these flocks are proper for farms on poor soils, which require a large fold, and belonging to which are extensive commons, wastes, or sheep-walks: such tracts will only *keep* the sheep, but never fatten one.

Another management in enclosed countries, is to buy ewes in *August* or *September*, to turn them on to the fallows, or the poorest grass on a farm, till *Christmas*, and then to begin to give them some turnips or cabbages, keeping them in good heart through their lambing, and afterwards as well as possible, that the lambs may be drawn fat by the butcher, soon enough to get the ewes fat and gone by *September* or *October*. This is a very profitable practice, and pays the farmer extremely well; but it ad-

mits of very little folding, only through the winter on dry grafs land, and in the fpring a little. Whether it might be ventured on in fummer, with fatting fheep, is a queftion not abfolutely decided at prefent. This purchafing of ewes, to fell them and their lambs fat in the fummer, extends from fheep a year old to old ones, called in fome parts *old crones*.

A third fyftem of conducting fheep is, to buy in three-year-old wethers in the beginning of this month; to keep them rather bare till about three weeks after the hay is cleared, during all which time they are folded: then to give them good keeping by degrees, and from it put them to turnips or cabbages to fat: contrive fo as not to fell till *March*, and keep many of them to the firft week in *May*; during all which feafon they fell better than at any time in the year. This is a moft excellent fheep management, and will pay the farmer as well as any other;

other ; and, if his land is good, better than most. He may, at the same time, carry on the ewe system, which are sold fat in autumn from grass ; by which means he may convert his whole farm, if he pleases, profitably to the keeping and fattening of sheep.

Whatever the stock is, this is the time for turning them from winter to summer food ; and you should take care that you have a sufficiency of clover or natural grasses for all your stock. In the distribution of it, you should attend particularly to the distinction between those sorts of cattle that do well on clover, and such as require natural pastures. Sheep, hogs, young cattle, horses and cows, that are suckled, are fed to more profit on clover, than in pastures ; but fattening beasts, large working oxen, and cows that are milked, require natural grass. It is true, butter and cheese are in many places made from clover ; but then we do not know whether the prices
are

are not lower. If your clover is good, it will carry five, six, seven, or eight sheep an acre, or one horse; and on some lands even more. Good grafs will carry a cow to an acre; but it must be above the common run. However, in proportioning the stock to the grafs, take care to be rather under than over; because it is an easy matter to mow a few acres for hay, in case you have too much; but cattle cannot be sold half fat to advantage.

FOLDING SHEEP.

THIS month begins the folding season throughout *England*; and the practice is of such importance, that it should be steadily pursued in all places that abound with stock sheep. All lean sheep, and perhaps all fatting ones, should be folded; but the fold should be much larger than for the lean stock:
and

and yet they will do as much good to the land, that is, go over it as quick ; for the benefit from fat beasts of all sorts to the land, both in dung and urine, much exceeds that from lean ones. In your folding, you should observe one point, which is to manure the lands thoroughly. Many farmers give a very slight dressing : one night in a place, and the fold three square yards *per* sheep ; instead of which it should be two nights, and only two square yards, or but one yard. In a word, the land should be left quite black, if arable ; and with a pretty good covering, if grass. The proper arable lands to fold this month are the cabbage and turnip fallows : those crops will be sown and planted in *June*, consequently will reap the benefit of the manure directly.

HOGS,

WHEN the farm-yards are cleared of cattle, the hogs should be sorted, and all those of a proper age for feeding on clover should be drawn and turned into it : this is a part of farming that has of late been much expatiated on ; but is not common husbandry in a fifth part of the kingdom. It well deserves to be considered, which is easy to do, as we have of late had pretty clear accounts of it.

In the old management of swine, they were kept at home, about the farm-house, or a close of grass, all summer, with times of regular feeding on wash, grains, or corn ; but the error of such a conduct was making no distinction between sows with pigs, or weaned pigs, and large hogs. In the new method, all the wash, &c. is reserved for the former ; consequently a much larger stock can be kept ;
and

and the hogs, half and three fourths grown, are turned into the clover about the middle of this month; and it is directed, that the gates of the fields be locked on them, and kept there till *Michaelmas*: but for this conduct the fences must all be in excellent repair, and a pond in the field for the hogs to drink at. This food agrees wonderfully with them: they grow very fast, and are taken out of the clover, in admirable order for fatting. This practice must certainly be attended with very beneficial effects: enabling the farmer to keep larger breeding stocks of hogs is alone of much consequence, and cannot fail of greatly improving his profit: the large swine will pay for the clover, as well as any other application of it; and the consequence of the whole system, in raising large quantities of excellent manure, cannot be too strongly insisted on.

As the dairy will this month afford
great

great plenty of butter-milk and cheese-whey, you should reserve all that is not wanted for the present stock of fows and pigs in brick cisterns, so contrived, that it may run without loss directly from the dairy into them : this will be worth many pounds *per annum* in a farm of any size : where such contrivances are not used, the wash must all be used as fast as it is made, and whether wanted or not ; which is a vastly greater loss than many persons, not used to the improved practice, will easily imagine. In those countries, where the system of hogs is perfect, they form much the most considerable part of the dairy's profit.

HORSES.

THE beginning of this month, the farmer should leave off dry meat for his horses. Either turn them out to clover,
or

or foil them in the stable on lucerne; and, if he has not lucerne, on clover. This is one of the most important articles in his business: he should therefore consider it well, that he may adhere to that practice, which most reduces the expence of keeping the team, which, in general, is so great, as to eat up half the profit of a farm.

Food given in the stable goes much further than in the field, and also enables the farmer to raise large quantities of dung throughout the summer. These are both objects of great consequence; and, if he appropriates a small field of lucerne, near the stable, to this use, he will find it by far the cheapest way of keeping his horses. An acre, perfectly well managed in the drill way, on rich good land, and amply manured, will maintain four horses, from the latter end of *April* to the end of *October*; but, if a farmer would manage in the most judicious manner, he should allot an acre to

to every three horses ; by which means he will be sure to have plenty to spare for any other use.

This system of conducting the team cannot be too strongly recommended : those farmers, who provide grass or clover to turn their horses into, know well the great quantity of land that must be assigned them, and the high expences in general of keeping horses : they should determine to embrace all methods of lowering such great expences, and none offers more clearly, and with a greater certainty, than the cultivation of lucerne for summer food.

O X E N.

OX teams are maintained in winter at a much less expence than horses ; but in summer they are nearer an equality : the same reasoning is therefore applicable to both. It is as adviseable to foil oxen

on

on lucerne as horses: they will thrive extremely well on it, and at a much less expence than pasturing them in the common manner.

C O W S.

IN this month, the cows should be kept in good food, that the dairy or the calves may return the farmer a due product. Clover and ray-grass, that has been fed off early with sheep, will suit them well; but if the clover should, as it is commonly imagined to do, give the butter a taste, the variation of price should then be calculated on comparison with the convenience the farmer finds in feeding with that grass. Lucerne does excellently for cows, and gives the butter no ill taste: it will, mown and given in racks or cribs, go much further than any food, and at the same time yield an opportunity of raising much dung: a

M

point

point that ought never to be forgotten. If this method is pursued, it will be most adviseable to let the cows go in a small pasture of an acre or two, with a pond in it, and be baited on lucerne in the cow-house, or in cribs in a yard adjoining, three times a day, with good care taken, that the feeding places are kept well littered. In this manner the dairy or calves will not fail of proving extremely profitable. It is not at all necessary to assert, that the cows will yield as large a produce in this manner, as when turned into natural grafs up to their horns: that is by no means the enquiry; but there cannot be a doubt of their yielding a much greater profit, which is the only point of consequence. In natural grafs, they will eat, spoil, and trample a great breadth; in exceeding good grafs, perhaps, an acre a head at least; but, if your lucerne is good, one acre will feed three or four cows amply. Such a state of the case at once shews,

shews, that the *product* of the cows has nothing to do in the enquiry: it is the *clear profit* alone that should be considered.

In the feeding of horses, oxen, or cows, with lucerne, let me observe, that it should be regularly mown every day, or every two days at most; and the best way of carrying it to the stable will be in a small skeleton-cart drawn by one horse, and made for the purpose. In the cutting it, the plantation should be marked into thirty or fifteen divisions; one to be mown every day, or every two days, and the cattle so proportioned, that they may eat it regularly. This will save trouble, and make the proportion between the cattle and their food be discovered with the greater accuracy: the lucerne, if well managed, will be ready to cut every thirty days.

THE DAIRY.

NOW begins the hurry of the dairy-maid's business: this is one of the most ticklish parts of the farmer's business. Unless he has a very diligent and industrious wife, who sees minutely to her dairy, or a most honest, diligent, and careful house-keeper to do it for him, he will assuredly lose money by his dairy: trusted to common servants, it will never pay charges. The dairy-maid must be up every morning by four o'clock, or she will be backward in her business. At six, the cows must be milked, and there must be milkers enough to finish by seven. The same rule must be observed in the evening. Cleanliness is the great point in a dairy: the utensils should all be scalded every day; the pails, and whatever else are small enough, boiled in the copper daily,
and

and vast quantities of cold water should be constantly poured down on the floor in hot weather, a cock of water running constantly through it; falling on the floor, and dashing a good deal about, would have excellent effects in cooling the air. There is scarcely any part of a farm that wants contrivance more than a dairy: if the number of cows be very great, well-contrived conveniencies would save half the expence of labour, and pay a farmer amply for erecting them himself.

PARE AND BURN.

PARING and burning the turf is, in some places, begun so soon as *March*; but it ought never to be done till *April*, and it is better still the beginning of *May*, at least the burning; but the paring may be executed throughout *March* and *April*. In the burning,

many hands should be set at work at once, that a dry time may be caught for it, in case the season in general proves wet. The ashes should only be spread before the plough, and turned in immediately: if they are long exposed to the air, they will lose much of their virtue. One peculiar circumstance attending the breaking up of grass lands, whether old turf or sainfoine lays, in this manner, is the bringing them in order for turnips with only one ploughing; and it is a general and very just observation, both in the north and west of *England*, where this husbandry is most common, that turnips scarcely ever are known to fail on burnt lands: the fly, on such, is totally unknown. Now, any farmer must be sensible of the vast importance of thus bringing turf-land, by only one ploughing, to a turnip crop: an infinity of tillage is thus saved, as well as a great expence; and the turnips are always so great a crop, that they

repay

repay the expences of the operation with most ample profit. In a word, this husbandry deserves the warmest praise.

But of late years an opinion against it has prevailed much in some counties. Several of the nobility and gentry, of very large estates, have interdicted the practice, not allowing their tenants to pare and burn under any pretence whatever. The reason assigned for this conduct is an apprehension, that the depth of the soil decreases from it: that you burn *the land*, and reduce half an inch to half a line; a great evil, when the land is perhaps only three or four inches deep on a lime-stone rock. But this reasoning many very sensible and experienced farmers know to be false. They, on the contrary, urge the universal circumstance of no land ever being pared till it has acquired a turf, which, with natural grasses, will be about twenty years; and, with sainfoine, the duration

of the crop, which is from fifteen to twenty years: that it is not the *soil* which is burnt, but the bulbs of the plants, the roots, and net-work of grass roots: the earth, which is intermixed, is never burnt; it is calcined, but never reduced to ashes, all of which arise from bulbs and roots: hence the fact, that the staple of the soil never suffers from paring and burning. If this reasoning be not true, whence the known fact, that soils not four inches thick, and which have remained at the same thickness as long as the oldest man can remember, have yet been pared and burnt regularly every crop of sainfoine; that is, five or six times in a century; and, as the same husbandry is known by record to have been practised for ages on the same land, the staple must have lost three inches every hundred years; in other words, it must have been totally gone long ago, and nothing but rock remained: all
which

which is evidently false, the soil at this day being as thick as ever. We may from hence conclude, what such farmers assert to be true, that the earth suffers no diminution, those roots and bulbs only being reduced to ashes, which in breaking up by the plough alone would rot quite away.

HOPS.

DIG the new-planted hop-garden this month; earth up the plants, and see that no weeds are left to infest them. At this time you should also pole your old plantations, proportioning your poles to the age and growth of your hops.

BEEES.

WATCH well your apiary, for you must now expect the bees to swarm. This most useful insect is not so much attended to by many farmers as it ought: not a farm-house should be without beehives; for the trouble they give is very trifling, and by farmers small profits should not be neglected: the union of them is not trifling.

HEMP.

THIS is the best season to sow hemp in. I suppose the land to have had its first tillage in *October*, left on the sharp ridge, and well water-furrowed in the spring; to have been stirred twice or thrice, and well manured. The seed should be harrowed in, from two to four bushels.

busshels *per* acre. This plant requires the very strongest, richest land that can be fixed on; for, on poor soils, it yields no profitable return. I do not think it is a crop that is in general adviseable: a good farmer will make more money by applying with as much spirit to more common articles, as he must to this, if he cultivates it at all.

FLAX.

THIS is another culture that requires extreme rich land and great manuring. It answers pretty well with the due attention; but I may remark on this crop what I did on hemp, that the same favourable circumstances of soil, manure, and weeding, would repay the farmer much better in other crops, such as cabbages, potatoes, carrots, &c. &c. with this general and great superiority: hemp and flax are very great exhausters; whereas

whereas the crops I propose are undoubtedly beneficial to the soil, and vastly improving to a whole farm, in the quantity of dung they enable you to raise. Flax may be sown in *April*; but, if you have not your land in excellent tilth, it is better deferred till *May*.

JUNE.

JUNE.

TURNIPS.

THIS is the great season for sowing turnips: later sown crops scarcely ever arrive at the size of those sown in *June*. There is a common idea among the farmers, that the turnip season lasts just a month, a fortnight before, and a fortnight after *Midsummer*; but let the husbandman make good use of the first fortnight: the latter will not equal it, unless the weather is more favourable. The land I suppose to have been ploughed for the last time but one in *May*: the beginning of this month the manure should be carted on to it, which,

which, in a well-ordered farm, should come from the farm-yard; and, if that does not yield a sufficiency to cover a fourth part of the arable land, the farmer is a bad one. If he has a thorough command of litter, and money enough in his pocket to buy plenty of cattle, it will cover a third of it; but, whatever quantity of turnips he has, let him dung them well. In this work he should proceed regularly, beginning one side of the field, and laying the heaps in lines from top to bottom, it should be spread immediately, and the ploughs follow directly to turn it in. Upon that ploughing, the seed should be sown without loss of time, and covered by two or three harrowings, according to the fineness of the land. I have sometimes seen the dung carried out a week before it is ploughed in; but that is very bad husbandry: for much of the goodness of it is carried away by the sun. It should be taken in full fermentation from the heap,

heap, and turned directly in, so as to ferment under the moulds, which will ensure a great crop. If the farm employs many teams, it will be proper to proportion them, so as to let the manuring, ploughing, and harrowing, be constantly going on, without interruption. As to the seed, observe well to sow the great round turnip, that lies quite above ground, and holds to it only by a small tap-root. It grows larger than any other, and has the excellent quality of being used in winter with much greater ease than those sorts, which root quite under ground, and are consequently not to be got at in a slight frost. Sow about a quart an acre: less than a pint is sufficient, perhaps half a pint, if they all grow, and escape the fly; but I have seen many thin-sown pieces totally eaten up, when the thick-sown ones have suffered much, and yet enough escaped for a crop.

In extreme dry seasons, much seed
 3 will

will not vegetate; but such instances are rare: the most common misfortune is the fly, which eats them off before they gain the rough leaf. Many remedies have been proposed for this evil; but none that are effectual. Steeps for the seed are mere quackery. Strewing soot over the plants, as soon as attacked, will very often save them, but the remedy is very expensive; because, on numerous soils at this season, the soot will be of no service as a manure. The very best dependance is on the richness of your soil: if it is extremely fertile, or full of dung, the growth of the turnips will be forced; so much accelerated, that they will presently grow out of the power of the fly. I have often remarked in fields partly dunged, that those lands, which received no manure, have been totally eaten up, while the dunged parts have escaped clear. Without manure, the growth is so slow, that

the enemy has many opportunities to attack the plant.

When a crop is totally destroyed, the farmers plough and sow again, which should never be omitted, if you have time. Probably you may do this, and yet get your crop in in *June*, which will be a fortunate circumstance attending a first early sowing.

CABBAGES.

UPON your cabbage lands you should pursue the same maxims as above laid down for turnips, only in ploughing the manure in, always throw the land on to the ridge, and set the plants in a single row on the top of each: so the dung is covered up in the ridges, and the plants in a proper situation for profiting by it to the utmost. As to the distance of the rows, you must be guided absolutely by the richness of the soil:

N

if

if you find the plants join from row to row, when at four feet, then you have proof, that they should not be planted nearer; but, if they no more than join, on three feet rows, then you would lose in the crop, if you gave a greater distance: two feet, from plant to plant, is the proper distance.

When the manure is spread and turned in, the proper way of planting will be to send women or children in with bundles of plants, to drop them on the tops of the ridges, at about two feet distance. They will lay ready for the men, who may then plant almost as fast as they can walk; but, if they have to get, carry, and set the plants, they will not be able to do near the work they might with better contrivance. The rows at four feet may be planted at five shillings an acre. It is a rule among the cabbage planters in husbandry, never to water the plants, let the season be as dry as it may, insisting that

that it is entirely useless. Upon this I shall venture to remark, that in most years, if the land is in fine tilth, and well dunged, this may be right, as the expence must be considerable; but I should apprehend that, in very dry seasons, when the new-set plants have nothing but a burning sun on them, that watering would save the lives of vast numbers, and might very well answer the expence, if a pond is near, and the work done with a water-cart.

There is one use in cabbages, which appears not to have met with the attention it merits: it is the planting on those lands where turnips have failed. A late-sown crop of those roots scarcely ever comes to any profitable amount; but cabbages planted on the land, without any fresh ploughing, would turn out a very beneficial crop for sheep late in the spring: in all probability, (unless on very light, sandy, or lime-stone
N 2 foils)

soils) of greater value than the turnips, had they succeeded.

No farmer can entertain too high sentiments of the necessity of gaining crops of green winter food: the importance of having such food for his cattle, and not depending totally on hay, is one of the clearest axioms in the whole range of husbandry. His profits will be amazingly lessened: his loss in the want of manure felt severely for many years, and on farms not abounding with hay, his expence in buying it, or his loss in selling his cattle, will be equally great. But, besides these accumulated evils, there is another of a different nature, which he should consider well: it is the change of his course of crops. After either turnips or cabbages, he sows spring corn, and with that spring corn clover. On some soils, the grass is left but one year, in others two, and in others, mixed with ray-grass, three, four, or five. The lay is ploughed up, and wheat

wheat at once harrowed in. This is at once compendious, cheap, and yet most excellent husbandry; for the whole duration of the grass is a constant fund of profit, at scarce any expence, and the preparation for wheat is carrying on all the time in the most beneficial manner. But, if the turnips fail, and no cabbages planted, what is the consequence? Why, the farmer sows wheat on the fallow, in hopes of a good crop, to pay him for so much tillage as the land has received. This introduction of that grain at once breaks the whole arrangement of his farm, and he is forced either to begin again, or to pursue that pernicious husbandry of sowing two crops of white corn running. He must either fallow for turnips again, or take a crop of barley, and then turnips: thus is he thrown out of his clover, though as important a crop as any on his farm, and launches into a series of tillage, that cannot but prove very expensive to him,

without repaying half the benefit that the clover course would have done.

For these reasons, when the turnips fail, and cabbages are not planted, the land should be laid up in winter for barley, and the clover sown with it, which will turn out far more profitable than throwing in wheat.

The cabbages planted in *April*, and hand-hoed and horse-hoed in *May*, should now have the second of each of those operations given : a hand-hoeing the middle of the month, which must cut up all weeds, and break the earth well of the narrow slip, on which the plants were left. Towards the latter end, the plough should go another bout in the intervals, splitting the ridge thrown up in *May*, and returning it to the rows. These operations will be of very great utility to the crop.

CARROTS.

THE carrot crop will, in all probability, require a hoeing this month, about the latter end of it. It should be performed with common hoes, and the men, who execute it, should take good care to kill all remaining weeds, and wherever they left the carrots double before, to set them out to the proper distances. This being the third hoeing, the land should be left in such order, as to require no more work, or, at least, nothing more than once going over it the latter end of *August*, to cut up straggling weeds, which may by that time have arisen.

POTATOES.

ANOTHER hand-hoeing must be given the potatoe crop, which should be so effectually performed, as to preclude the necessity of any succeeding ones; because the plants will be too much grown to be hoed without damage in the operation. The crops planted in rows for horse-hoeing must have the second this month, given with the swing-plough as before: it must split the ridge before thrown up, and lay it equally to the rows.

MADDER.

ANOTHER hand-hoeing must be given to the madder crops this month, in which the labourers must be extremely attentive not to damage the crop; for
the

the branches will be grown considerably, and they are so remarkably brittle, that the least rough usage breaks and damages them: they must not use longer than six or eight-inch hoes. The latter end of the month, the first horse-hoeing should be given. Put two horses, one before the other, in the swing-plough, and turn a furrow on each side *from* the plants, which will consequently throw up a ridge in the middle of each interval, and so it should be left till the next month.

LICQUORICE.

THIS month the licquorice plantation must be hand-hoed again. Let the work be carefully performed with small hoes; but the plant not being nearly so brittle as madder, it will not require so much nicety in the management.

HOPS.

TIE the hops to the poles the beginning of this month, and towards the end of it examine them, to retie such as have become loose. Be very diligent to keep the garden clean from weeds.

FLAX.

WEED the young flax: this is an expensive operation; but the crop depends on it: it must therefore be effectually performed.

LUCERNE.

THE lucerne, drilled in the spring, will now want a very careful attendance. It will not be adviseable to horse-hoe it
the

the first year, because its great tenderness will not bear any accidental evils that may arise in the operation; but the hand-hoes should be kept diligently at work; the land kept throughout this work perfectly free from weeds, and the surface well broken by the hoes, to keep it from any degree of binding. While the men are hoeing, they should never omit to stoop and pluck out such weeds with their fingers, as grow among the plants in the rows: this is highly necessary; for, if they are left, they will injure the young lucerne much. Whoever cultivates this grass, must absolutely determine to spare no expence in the eradication of weeds: if it is not done in the most perfect manner, the crop will answer very poorly. There is no plant will bear the neighbourhood of weeds so badly, and especially while it is young. If the hand-hoes are applied in time, and often enough, the expence will not be great; but if, through saving, you defer

defer it till they are gotten much a-head, the crop will either be totally lost, or the expence of cleaning be enormous.

The old crops of drilled or transplanted lucerne will be ready for cutting this, as well as every month through summer, if the land is made rich enough for it, and the weeds are never allowed to rise. After the cutting, horse-hoe the rows, each time the reverse of the former; and, in respect of hand-hoeing, be guided by the weeds: give it as often as necessary to destroy them absolutely and completely.

Some cultivators have found a difficulty in the cutting lucerne: they say that, in mowing it, if the intervals are kept in fine tilth, so much dust is taken up with the crop, that the cattle will not eat it; but, in answer to this, I may observe, that if weeds enough are left to prevent this evil, the crop will be destroyed. It should be either reaped and laid at once into a cart, or on heaps, or else the inconvenience

convenience submitted to ; which I might observe, cannot be any thing like so great as some people imagine.

SAINFOINE.

THE latter end of *June*, the sainfoine crops will, in general, be ready to mow : they should always be made into hay ; for no grass in the world answers so well for that purpose. It is a common thing to gain from two to three tons *per* acre on dry good land, that with any other crop would yield none at all : and the after-grass is extremely valuable, much more so alone, than the former value of the land.

CLOVER.

THE latter end of *June*, the clover crops will be ready to mow. In many situations

situations it will not be adviseable to feed any more of it than can be dispensed with, the hay paying so much better.

In the making of all artificial grasses into hay, particularly clover and sainfoine, it should be observed to act quite differently from the making natural grass. The latter is strewed about soon after mowing; but the former should lie in swarth a day or two, then turned carefully, and lie a day or two longer. In good weather, this makes it sufficiently. It may then be got into cocks, in which it should remain about two days, and then carted to the stack. The whole is a very easy and cheap process.

MEADOWS.

THE very early or rich meadows, and the highly manured upland pastures, about great cities, will be ready to mow in *June*. In executing the work, observe

serve particularly, that the labourers cut as close to the ground as possible: grass never thrives well that is not mown quite close, and the loss in the crop of hay is very considerable; for one inch at bottom weighs more than several at top. In the making it into hay, you will be a loser, if you have not many hands ready for the work. It should be shaken out directly after the scythe; wind-rowed, that is, raked into rows, before the evening, shaken out again next morning, and in the afternoon got into grass cocks: these should be opened the morning following, and got into the great cock by night; by which time the hay will be well made, if no rain comes; but, in case of bad weather, the process will be more tedious. If successive rains come, so that the hay is damaged, and you are fearful of its turning out unprofitably, by all means salt it as you stack it; a peck strewed in layers on the stack to a load of hay:

it will have a very great effect in sweetening it, however bad it may be, even to blackness; and it has been found by experiment, that horses and horned cattle will eat damaged hay, if salted, in preference to the best.

THE TEAMS.

CONTINUE to soil your horses and oxen in the stables, or under sheds, upon lucerne mown every day or two, and take care to have great plenty of litter, to spread under them, for treading into dung. They will raise immense quantities of most valuable manure with this management, and at the same time be kept at a much cheaper rate, than if turned into any kind of pasture.

HORSE-HOEING.

THE drilled crops in general of wheat, barley, oats, pease or beans, must be horse-hoed at least once in *June*. If they had received a first horse-hoeing in *May*, then this of *June* must reverse it: throw the earth back again to the rows, splitting the ridge in the middle of the interval. In these works of horse-hoeing, two horses should be used, one before the other, and the plough should not be carried nearer the rows of corn than four inches: even at that distance, some of the corn will be apt to be buried. These remarks are offered for those, who drill all sorts of crops; but the new husbandry cannot be recommended for white corn or pease: beans it is incomparable for; turnips it is said to do well for.

FALLOWS.

THE fallows, whether for wheat or barley, should this month receive a stirring; by which the crops of weeds, that have arisen since the land was ploughed and harrowed fine, the latter end of *April*, or the beginning of *May*, will all be turned in and destroyed: no other tillage will be requisite this month to them.

BUCK-WHEAT.

IN case the month of *May* was very unfavourable to the tillage of spring corn lands, buck-wheat may yet be sown; but it should not be ventured in the ground after the first week or ten days. This crop bearing to be sown so late is, in many cases, a most valuable

circumstance. By means of it, you have time to get the land into extreme good order, and quite free from feed-weeds. If the stubbles are broken up in *October*, he must be an indolent farmer that cannot get his land fine and clean by the end of *May*.

S H E E P.

IN this month, the flocks of stock sheep are regularly managed: they live on the commons and sheep-walks, with little change or trouble. The stock intended for fattening, such, for instance, as wethers bought in in *April* or *May*, and intended to be sold fat from turnips or cabbages the following winter, should be kept not like fat sheep, but throughout this month on the poorest of your food: they may be turned on to your commons or sheep walk, or into your bare pastures, and kept so for eight hours

a-day, and then give them a bait for two or three hours in your clover or ray-grass, or good natural pastures; after which they will be ready profitably to fold. Early in the month, the lambs of a flock should be gelt: a work that should not be delayed longer.

Now also is the time for shearing sheep. In this work, the young farmer should be attentive, and fix on the steadiest and most careful of his labourers for it. If he does not keep a shepherd, they must be washed in a pond or river three or four days before, taking the opportunity of a warm day. Two men hold the sheep, and wash his wool quite clean; and another or two must attend to bring them. The only rule in doing this work is to wash them till the wool is quite clean and white. Some people have a notion, that it will kill the fish of a pond; but this is a mere vulgar error: on the contrary, the vermin that are washed out will feed them well.

In a day or two after the washing, they must be sheared; in which business the principal care is to see that the men do not stick the points of the shears into the sheep, nor clip or wound the skin. A man, that understands the business well, should attend to wind the wool into fleeces as fast as it is cut, and should take care to turn in all the damaged or ill-looking parts, so as to make as handsome a fleece as he can. The farmer will find the advantage of such a conduct, when he sells his wool. In some countries, the whole business of washing, shearing, and winding, is done by the great: the price varies; but it is three shillings and six-pence a score sheep, where the men have one shilling and six-pence a day at that season of the year.

FOLDING.

THIS is a capital month for the sheep fold, and the benefit of this manuring is so great, that he is an idle farmer who does not make the most of it. Now you should fold the cabbage and turnip land, which are the crops that will soonest succeed the operation: the general rule for all manuring. Give each sheep a square yard in the fold, and go two nights on the same land. After your cabbages are planted, and your turnips sown, if the land is very light, continue the folding on the turnips till they come up; but, after that, you must remove to your crops of grasses, that are mown regularly for soiling your teams with in the ox-house and stable. As soon as a spot is mown, fold it, but only one night, and immediately after horse-hoe it. If the rows are too nar-

row

row for that operation, hand-hoe it; and, if the crop is broad-cast, harrow it. But, whatever be the operation, it should follow the sheep, so as to bury the dung directly. This use of the fold will last till about a fortnight before wheat sowing, when you should move again.

THISTLE THE WHEATS.

IN this month, the crops of wheat, if any thistles has arisen in them, should be weeded. The best manner of performing the work is with a small hand-hook. It should not be deferred longer than the beginning of *June*, or damage will be done to the crop by the treading.

DIG MARLE.

THIS is a good season for marling of land: one of the most important works that can be done in husbandry. All farmers, that have marle under their fields, and do not make use of such a treasure, are much to be pitied; it may be called the prince of manures.

In some countries, it is the common manure; and almost every where to be found when dug for: in such places, the farmers have nothing to do but to get money enough to resolve on the undertaking: they all acknowledge the expediency of the work, and seldom dispute the great profit of it; but, in other parts, the knowledge of marle is very confined. It may perhaps be discovered half a century before it comes into general use. In tracts of waste land, or sheep walks and warrens, let at a shilling,
or

or two shillings and six-pence an acre, marle being discovered, and rendering such land capable of yielding noble crops of turnips, clover, and all sorts of grain and pulse; the uncommon effect, and the amazing advantages made by it are so striking, that the use spreads fast. But, on the contrary, when marle is found under richer soils, (inclosed countries, for instance, of ten or twelve shillings an acre) the case is different: it will make no such improvement as on the poorer lands; and, as great fortunes are not suddenly made by the use of it, the farmers will not be persuaded to use it with any spirit, possibly, not at all: they think that a rent, comparatively higher than the other tracts, will not allow of their spending such sums about it: that they will not reap *equal* profit is undoubted; but why not accept of twenty *per cent.* advantage? Should they reject it, because they cannot command fifty? If tenants are backward in
making

making use of marle in lands of ten or twelve shillings an acre, their landlords should set them the example, and shew them that the work will answer well.

Marle is of various sorts, and lies in various strata: in some places, it is a soft, fat, soapy substance; in others, it is hard as chalk, which are called stone-marles: sometimes you find it white, sometimes grey; also blue, yellow, and a dark brown. In some counties you have shell marle, which is composed of nothing but marine shells. The depths at which it lies are various: sometimes only three feet from the surface, at others ten or twelve, and in some places so deep, that it will not answer to get it at all. The strata are also of different thickness, from two feet to twelve feet deep; but the general circumstances in which all true marles agree, and which denote them to be real, are the effervescence with acids, and the falling

in

in water : the crackling in the fire is a good sign, but not alone determinate.

If it is uncertain what strata are under a farm, it is ever adviseable to use the screw-borer, to discover what soils are within reach. By means of that instrument, you discover, at a trifling expence, if there is any marle at command.

The best way of conveying it on to the land, if it does not lay very deep, is to open a sloping mouth, sinking the pit gradually, wide enough for a cart to drive in and out; and, when you come to the marle, to work it away circularly, and to keep the pit ten or fifteen feet deep, by which means the expence of filling the carts will be much lessened. The expence of marling, when is is thrown in this manner into the cart, will be, upon an average, three pence halfpenny *per* load of thirty bushels, the filling and spreading; and about four pence halfpenny for the teams, carts, and drivers : in all, eight pence
per

per load, or three pounds six shillings and eight pence *per* hundred loads. This will be a proper quantity for an acre of land: the benefit will last for twenty years, and the land always be the better for it.

Where the marle lies too deep for this work, pits are sunk like wells, and the marle drawn up in buckets: this will cost alone six-pence *per* load of twenty bushels, or nine pence that of thirty, which, added to the eight pence of the above, makes one shilling and five pence in all; or, for one hundred loads, seven pounds one shilling and eight pence, which is the amount *per* acre. This expence will be thought high only by those, who have been used to the inferior one of three pounds six shillings and eight pence; but, in reality, it is one of the cheapest methods of manuring land: for, considering the number of years the manure lasts, the price *per annum* divided will amount to a very small sum annually.

DIG. CLAY.

WHERE marle is not to be had, clay, in many places, is to be found at a moderate depth. This manure has none of the properties by which marle is to be known; but yet it works wonderful improvements on many soils. In some light lands it has been preferred by many very good farmers to indifferent sorts of marle; and this preference has been the result of attentive experience.

But the great point concerning clay is not so much the comparison with marle, as the use of it where no marle is to be had. On all light sandy soils it should be used with a confidence of success; for the precedents of its good effects are so numerous that they have not a doubt of its excellence. About one hundred loads an acre, at the same expence as of marle, will work an improvement

provement great enough to shew how much mistaken they are, who think nothing but the finest marles worthy of attention; and upon heavier soils, such as wet loams, brick earths upon clay, and loose hollow soils, that want a firmer texture, clay is an excellent manure; but there are vast tracts of such land, that cover very fine veins of clay, and yet the farmers know nothing of the use of it. It is much to be regretted that their landlords do not give them a juster idea, by being at the expence of claying some small fields, until the benefit of the improvement becomes conspicuous.

DIG CHALK.

CHALK is a manure very common in many parts of the kingdom, and this month is a very proper season for digging it. A distinction is here to be made between the chalks that are of the
fat

fat soapy kind, and those hard ones that are flakey and different. The first ought always to be ranked among the marles, for such they really are; but the latter have none of the signs of marle, and yet are of excellent use on many soils: they work a great improvement on light sands, and light loams: they have in many places been used with great success on gravels; and on clayey loams and clays they do extremely well, mellowing them greatly, and bringing them into much better order for ploughing, and much earlier in the spring, which, on such soils, is always a matter of consequence. The expences of this improvement are the same as of marle or clay, being sometimes dug and thrown directly into carts, and at others drawn up in buckets through shafts. These variations are not of such importance as to exclude the propriety of the improvement, even in the most expensive countries.

EMPTY PONDS.

THIS is a proper season for emptying ponds, and cleansing rivers; for, being early in the summer, you will afterwards have an opportunity of turning the mud over twice or thrice, and thereby sweetening it, and laying it into the proper state for bringing it on to the land. This is a part of husbandry too much neglected by most common farmers; but advantage should always be taken of it by a good husbandman, when he is lucky enough to succeed a great flood; for then he will probably find all the ponds, &c. full of rich mud.

It is impossible that pond mud, especially if there is a stream into the water, should ever fail of proving a most excellent manure, when judiciously used. The method of managing it, which has been

been found the most beneficial, is the following.

As soon as the mud is dry, and hard enough to spit, turn it over, and, in about three weeks or a month after, mix it with an equal quantity of chalk or marle: it matters not which you move: either bring the chalk to the mud, or carry the mud to the chalk. If lime is cheap and plenty, it will be an excellent management to add about half the quantity of mud in lime. Let the whole be mixed well together, and remain until *September*, when it should be turned over again, and spread upon pasture or meadow land in *October*. This is husbandry that will pay any man well.

RAPE AND COLE-SEED.

THIS is the season for sowing these plants, in the same manner, and upon the same preparation as turnips. The

P

great

great use of the crops is for feed, of which oil is made. It sells at various prices, from ten to thirty pounds a last: the crop is, on good lands, generally about half a last; but it is a great impoverisher. In some places, it is sown for feeding sheep and ewes in the spring, after turnips are gone, which is a beneficial use; but the quantity of food not being very great, it will not answer for this use, to apply land to it that has had a year's fallow, but only such as have given a crop, (white pease, for instance, or tares mown green for soiling) which land may be ploughed up the beginning of July, and this seed harrowed in.

JULY.

FARM YARD.

THE compost raised the preceding winter in the yard being carted on to the land, you may now, if you have leisure, begin to cart in the layer of turf, ditch earth, chalk, marle, or clay, upon which you are to fodder the succeeding winter. There is no necessity of performing this work in *July*; but, as it may probably prove a leisure time for the teams, it is mentioned as a business that should be in hand, as a prevention of their standing still. It should be executing from this time till the end

of *September*. As the importance of it is very great, being the source of the most material improvements on a farm, it should be resolved on early, and executed with all possible spirit.

TURNIPS.

NOW you must hand-hoe your turnip crops; a work perfectly understood in many parts of the kingdom; but so much neglected and unknown in others, that it will be proper to enlarge a little on the method of performing it, and on the necessity of the practice.

Supposing turnip-hoers to be scarce, or to demand extravagant prices, or none to be had, order some hoes to be made by your blacksmith: the iron part exactly twelve inches long, and three or four broad, neatly done, and sharp: put handles five feet long in them. So provided, take your men into the field,
and

and yourself with a hoe should accompany them : make them hoe the crop boldly, and not be afraid of cutting too many up. Direct them to strike their hoe around every plant they leave, and fix upon the most vigorous and healthy growing ones. By this means, they will not be able to leave them less than fourteen inches asunder ; for, their hoes spreading at every cut twelve inches, they cannot spoil your crop by not cutting freely. This work must be done by the day, and you must attend the men well, to see that they cut the land pretty deep, so as to kill all the weeds, and also such turnips as they strike at. In about a fortnight after, send them in again to rectify former omissions : in which time they must break all the land again with their hoes, cut up the remaining weeds, and wherever the turnips were left double, thin them. The men will be awkward at this work the first year ; but, by degrees, they will be able to do

it in perfection, and by mixing new ones among them every year, the art will not be lost.

In countries, where turnip-hoeing is commonly practised, the work is generally done by the piece: four shillings an acre, for the first hoeing, and two shillings and six-pence, or two shillings, for the second, are common prices. Where this is the case, the farmer's principal attention should be to see that the work was well done; for, in all these operations, the fellows are extremely apt to run over their work in a slovenly manner, aiming only at making good earnings: the farmer should see that they cut up all the weeds, and leave the turnips every where single. The crop must have two hoeings, which should leave it *perfectly* clean, and the plants all at regular distances.

CABBAGES.

THE crop planted in *April* or *May* must be looked to this month. As they were both hand and horse-hoed in *June*, perhaps they will not want any more culture till *August*; but this depends on the season: if the weeds grow, let them be killed; for the best rule in this matter is to hoe sufficiently to keep the crop perfectly clean, and to horse-hoe whenever the intervals are at all bound by rains or otherwise.

The crop planted last month must be hand-hoed before the middle of this: in which work you should be attentive to cut up all the young weeds that grow near the plants, and break all the land on the tops of the ridges; but the men need not hoe the sides of them, or the furrows, as the plough in horse-hoeing will cut them much better. Some

fresh earth should also be drawn to each plant, earthing it up as it were. The first horse-hoeing should be given soon after; in which operation the plough should take off a furrow from the ridges on each side, and throw up a small ridge in the middle of each interval, which will let the sun into the earth, on which the plants stand, and pulverize and sweeten it. The cabbages will be left on a narrow slip of earth, ready for the second hand-hoeing, which will be given with great ease.

POTATOES.

THE crops of potatoes, planted in rows, must have a third horse-hoeing this month. The common way of ploughing backwards or forwards every time of horse-hoeing is not well adapted to this crop; for cutting the roots, when the plants are in full growth, hurts the

3

crop,

crop, you destroy runners, that would produce potatoes. For this reason, the third horse-hoeing should be given first with an instrument, called a cultivator, of which there are very many sorts; but they all agree in the circumstance of cutting and loosening the earth, without turning it over, or forming any ridge. Some of them work with many little triangular shares, some with single flat ones, and others only with coulter; but any of them that cuts up fresh moulds at the bottom of the furrows, will answer the purpose. A double mould-board plough (a common instrument in some counties) should follow the cultivator in about a week, and, striking the furrows, throw up all the loose earth against the ridges, banking them up. There is a great use in this operation; for it throws up fresh earth for the roots to shoot into, which is preferable to taking it away from them, after they have advanced at all in growth.

LUCERNE.

THE drilled or transplanted lucerne will be ready to cut again this month: the intervals must be directly horse-hoed, the contrary way to the last. In respect to hand-hoeing, the best rule will be to do it according to the growth of weeds: there is no necessity for it, while the rows continue clean: the weeds that arise among the plants in the rows, should be plucked out, and particularly all grasses, which are the greatest enemies to this crop.

MOW GRASS.

ALL meadows and pastures, not mown in *June*, should be cut this month. Hay-making being in many seasons such ticklish work, and so extremely

tremely expensive, the farmer should take care to manage it with as good contrivance as he can. To have a plenty of hands is a material point; for, if good use is not made of favourable days, the work will certainly be unprofitable. In order to this, the farmer should have some other work always in readiness for his people, in case the weather is too wet for hay-making. For men, he may have compost hills to turn over and mix, borders to grub or dig up, carting manure, &c. Women he may employ in stone-picking, weeding, &c. When many hands are kept, this management will save much useless expence. In the making the hay, the getting it at last on to the large cock should never be omitted. Many farmers only run it up in broad rows, and load from them on to the waggons; but it is better to employ all the hands in cocking it: for, if the cocks are large and well made, the hay will take no damage in them, even in very heavy

heavy rains; and, by all the men being so employed, much the more hay will be secured. Where the labourers will take the work of hay-making by the piece, it is adviseable to put it out to them at so much an acre: for instance, from five to eight shillings, for mowing, making, and cocking.

THE TEAMS.

ALL this month, the horse and ox teams should be foiled daily with lucerne, in the houses or yards; but, if in the latter, they must have water always at command, and also sheds for shelter; and if the farmer does not provide plenty of litter for treading into dung, he neglects the principal part of his profit. Lucerne is the best plant for this purpose, and an acre of it will go much further than of any thing else. Sainfoine is good, so is clover; and tares, mown every day, will
answer

answer well in the same use. In want of these give natural grafs; but any of them are better, with plenty of litter for dung, than turning the horses or oxen into the field. However, if litter is not kept in plenty, then it is much more advisable to turn out.

THE FALLOWS.

HAVE an eye to your fallows this month, and do not follow the example of those farmers, who totally neglect them for works of hay and harvest. A farmer carries on his business very unprofitably, if he does not keep men and horses enough for all works: it is unpardonable to suffer the fallows to be over-run with weeds at this time of the year: they ought to be in a fine state of pulverization.

Some excellent husbandmen, on very stiff tenacious clays, that run much to couch

couch and twitch-grafs, assert, that the fallows ought to receive the second ploughing the beginning of *June*, as deep as possible, which leaves the field all in immense clods : these should roast in the sun until the end of *August* at least. They assert, that such management kills all couch and twitch, which would vegetate and encrease infinitely, if the land was made fine before the heat of summer came on. But there are many objections to this plan, supposing the fact true of its killing the couch. You lock up all the seeds of weeds in the clods, at the same time that you destroy the couch ; so that, on sowing your wheat, before which the land is made much finer, they all vegetate with the crop. Another very great objection is, so much of the soil losing the benefit of the sun's acting on it during the hottest of the summer months. If the land is really improved by the air in summer, sweetened, ameliorated, or any ways enriched,

enriched, surely it must be in proportion to the number of particles exposed to its influence: the sun penetrates deep in well-pulverized soils; but has little effect in clods as hard as marble. These observations are not offered as proofs, that the above-mentioned farmers act absurdly; for, on certain soils, not very general, their practice may be just: but I think that such opinions should, by no means, be generally adopted on all stiff soils; for the result might then turn out very disadvantageous.

FOLDING.

THIS month folding should be followed with unremitted diligence: the lands usually fixed on for this purpose are the wheat fallows, which is very judicious in those farmers, who have no crop sown between, or turnips and wheat, and who cultivate no grasses in

the horse-hoeing way ; but let the attentive, accurate husbandman lay it down as a rule, ever to fold those lands first, which will be first sown or ploughed. During this month, he should fold such fields as are destined for *August*-sown grasses, of whatever sort, or lucerne plantations, just cut, and ready to be horse-hoed : by these means the crops are immediately benefited by the practice ; but, if the manure is left above ground, to have its virtues extracted by the sun, the benefit reaped by the crop will not be near so considerable.

DIG MANURES.

DO not let the marle, chalk, mud or clay carts, stop this month : it is a very proper season for the work, and should be pursued with spirit, while the season admits it on all soils : I say, *on all soils*, because in winter, wet or heavy ones

ones must not be carted on. These manures, though expensive at first, are cheap in the end; for they last many years. In all works of carting, attend particularly to the employment of your team: use as few horses as possible. For this purpose, the small three-wheeled cart is excellently adapted: one horse is sufficient for two of them: one is loading, while the other is driving away, by means of the third wheel, which supports the weight of the cart and load, instead of the fill-horse in large carts: they do not hold more than fifteen bushels, and the wheels should be nine inches broad: a great excellency, as such will do for winter-carting on grass-lands, without poaching or otherways damaging the grass. If the draft is not distant, four or five men will thus be employed by one horse, which is an excellence that no other machine can boast. Now, let any attentive cultivator reflect on the importance of an

Q

odd

odd horse performing all the carting of a farm, while the others are going regularly on with their tillage or road-work. Whoever will consider this comparison, in the proper light, will be sensible, that it is much the most economical way of carrying on business.

MADDER.

IN case the season in the spring proved so unfavourable to planting madder, that the work was delayed until the last week of *May*, or the first of *June*, the fields so planted should now be horse or hand-hoed, as most wanting. The best way is to use the cultivator, or skim; not for turning a ridge against the rows, as the plants will yet be too weak for that operation, but merely to loosen the earth of the intervals, thereby to kill the weeds, and prepare the soil for throwing up against the rows by a succeeding

ucceeding operation. Hand-hoeing and weeding should depend on the number of the weeds that arise among the plants. Let the cultivator of madder, through the whole process of the crop, remember, that he must be to the full as accurate as a gardener: his soil must be rendered but little inferior to a dunghill: all weeds must be for ever eradicated; not one must injure the plants: his land must always be kept perfectly loose and well pulverized; for a crop that depends merely on the quantity of the roots, can never thrive to profit in land that is bound, or in an adhesive state.

CUT PEASE.

FORWARD white pease will be fit to cut some time in this month. If the crop is very great, they must be hooked; but if small, or only middling, mowing

Q 2

will

will be sufficient. The stalks and leaves of pease being very succulent, they should be taken good care of in wet weather: the tufts, called wads, or heaps, should be turned pretty often, or they will receive much damage. White pease should always be perfectly dry before they are housed, or they will sell but indifferently, as the brightness and plumpness of the grain are considered at market much more than with hog-peas. The straw also, if well harvested, is very good fodder for all sorts of cattle; but it receives much wet, and if the heaps are not often turned, it can be used only to litter the farm-yard with.

BARLEY.

SOME of your barlies will probably be ready for mowing towards the latter end of this month, particularly the

Fulham

Fulham sort, which is frequently cut the middle of *July*, a fortnight before any other sort, though sown at the same time, and on the same land. This early mowing has several advantages: many weeds are cut before they seed, which, in a fortnight longer, would shed, and consequently injure the ensuing crops. The trouble and attention of harvest is lessened; for a part, at least, of the barley crop may be in the barn, before other farmers, who do not use this sort, begin to mow,

W H E A T.

AUGUST is the principal month for cutting wheat, under which head I shall treat of it more particularly. I mention it at present merely to consider the conduct of many sensible farmers, who are fond of cutting their wheat, at least ten days before it is absolutely ripe.

Q₃

There

There is reason to think this practice a very good one: the corn is left in the field longer than common, to finish in that manner the ripening: the advantage is the fineness of the grain. If you are desirous of carrying to market a sample of wheat, that shall exceed all others, it must be thus harvested; and I have more than once heard several very attentive farmers assert, that they lose nothing in measure by this management. It is at least worthy the trial of all good husbandmen, were it only for the convenience of somewhat dividing their harvest: the last fortnight in *August* is so busy a time, that many of them scarcely know how to get in their corn, upon account of all sorts then requiring attention at once.

AUGUST.

WHEAT HARVEST.

NOW is the time that the farmer gives the first of his attention to that golden crop, WHEAT. Having been a year at least, perhaps a year and half, or two years, in gaining it, he is now anxious to get it safe within his barn. Bad weather now greatly injures his profit: he must have many hands at work, to make the best use of fine seasons, or he will gain the name of an *afternoon farmer*.

There are two ways of cutting wheat, reaping and mowing: the first is the

Q 4

common

common practice, used time immemorial; the latter, a new method, invented to save labour. This is a subject that has been much discussed within a few years, and with great warmth; some persons strenuously insisting, that the advantages of mowing are so great and manifest, that the farmer's loss from not following it is extremely great; whereas the opposite party are equally certain, that the common method is in all respects superior.

In the mowing, the men lay the swarth to the standing wheat, for the conveniency of gathering it: two women follow each mower, to gather it into parcels proper for sheaves, and lay them ready for a man, who follows them and binds. The method is very expeditious, and saves much expence; for the mowing does not cost half, or a third, what the reaping does, and the gathering is performed by women: all which is one great advantage.

Another

Another is the quantity of straw gained by it; for the farmer carries into his barn, and sells, or uses, all that is left in the field after reaping, commonly called stubble or haulm: the gain by which is, in many situations, extremely great.

But, on the other side of the question, it is to be considered, that the quantity of barn-room must be extremely great, to contain a large wheat crop with such very long straw. In farms, where the barns are pretty nicely proportioned to the usual crop, the tenants would be obliged to stack their wheat, much against their wills in many countries, or the landlords encrease the buildings on their farms; both which are great objections.

Another is the cutting and binding up so many more weeds in the sheaves; for, the lower the corn is cut, the more such you take; and the sheaves must be left the longer in the field to dry: for the succulent stalk of a weed, perhaps in
full

full vegetation, will be vastly longer a withering, than the stalks of wheat almost become straw before it is cut. This objection has great weight; for favourable seasons in harvest are so extremely valuable, that good and quick use should ever be made of them; and a necessity, late in harvest, of leaving the corn long in the field, is a great misfortune.

Lastly comes the thrashing, the expence of which will be greater with mown, than with reaped wheat; for the longer the straw, and the fuller of weeds, the more difficult and tedious will be the operation, and consequently the more expensive; the case is therefore resolvable into a comparison of these advantages and disadvantages.

As to the expence, something is certainly saved by mowing, but not much; perhaps one shilling and six-pence an acre: if it is two shillings, the amount goes but a very little way in balancing the inconveniencies:

veniencies: the thrashing alone will prove near its equal. Suppose the acre produces two quarters and an half, and the thrashing price two shillings and four pence *per* quarter reaped: one cannot rationally suppose the men will thrash the mown for less than two shillings and nine pence. This rise alone is more than one shilling an acre; but, in many weedy crops, the encrease of price would be yet more; and what proportion does the remaining shilling bear to the hazard of leaving the corn longer in the fields? The material and only point, therefore, is the gain by straw: this, I at once allow, turns the scale in some situations: for instance, in the neighbourhood of *London*, where straw sells from a guinea to two guineas a load. In such situations, there cannot be a moment's doubt of the propriety of mowing; for the profit is so great, that it far more than balances all other inconveniencies.

In the counties where husbandry is best carried on, and where reaping is the only method used, the farmers, after harvest, chop their stubbles, and raking the haulm into heaps, cart it home to their farm-yards, to make dung. Here seems an advantage on the side of mowing, in saving this expence, as the scythe cuts close; but this amounts to the mere expence of chopping and raking, which is but one shilling and six-pence an acre, and is much more than balanced by the great difference of being obliged to cart the amount home in harvest, or at a more leisure time of the year. The more is collected in the sheaves, the more harvest carting; and certainly all work should be curtailed as much as possible, while the men are paid in many places such extravagant prices.

Upon the whole, the practice of mowing wheat can only be recommended in those situations, where the price of wheat straw is very high; so

high as to make it prudent in the farmer to sell it, instead of converting it into manure.

Reaping is a work often put out by the acre to the men, and it may be done as well so as most works; but it is necessary to observe, that they do not cut or bind in improper weather, and that they make the sheaves no larger than proportioned to the quantity of weeds in them, and the ripeness of the corn. In the forming them into shocks or stacks, there is in some counties an art of making them in such a manner, that they shoot off the water, and are kept tolerably dry in wet weather, without being laid so close, as not to dry with the sun and wind: it is a good practice, and deserves imitation. Some farmers leave their corn standing so long, that it is ripe enough to *cut and carry*; as they call it; that is, they cart home the sheaves as soon as they are bound: but this will only do for very clean crops;
for

for the weeds in a sheaf are never withered enough at cutting to carry directly.

In a farm-yard, where there are teams enough, carting the wheat crops goes off very quick with three waggons: one loading in the field, one unloading, and one upon the road going backwards and forwards: five horses are sufficient for them, and two men to load, one to drive, and two to unload; in all five: which will make great dispatch.

In some counties, it is common to stack all the wheat, if they stack any thing; and they are certainly right in the practice. No rats or mice can get into a stack, if it is built on a floor raised on posts, in the common manner; and wheat, being in sheaves, admits the cut ends of the straw all to be laid outwards, so that the grain is defended from every injury, from all external attacks: whereas any corn, that is not bound up, is much damaged. Wheat is also found to carry
a much

a much finer countenance out of a stack than a barn: the admiffion of the air gives it a brighter colour. In getting a stack into the barn for thrashing, difficulties fometimes, however, arife: a whole one fhould be got in at once, it being very dangerous to leave a broken stack expofed all night. It muft alfo be done in fine, dry weather, which in winter the farmer may wait for in vain fome weeks, and thereby find great inconvenience. Some of thefe evils would be remedied, and at all times a great expence faved, if a window was cut in the fide or end of the barn, and the stack built againft it, near enough to lay fome fhort planks from one to the other, and fo do the whole by hand, throwing from the stack at once into the barn. Thefe are points that fhould be well confidered at harveft, when the stacks are built.

BARLEY, &c. HARVEST:

THE barley crops should generally have good field room, laying three, four, five, or six days after mowing: they will improve, and, if a heavy shower of rain comes, it will not diminish the farmer's profit: it will make the grain swell, and measure much more *per acre*; for maltsters reckon much on their profit in such dry harvests that the barleys receive no rain after they are mown. But ever observe, that barley, oats, &c. be quite dry when you cart them: corn is always greatly damaged from being carried in damp or moist: a heat is contracted in the mow, and the grain much discoloured, and the straw spoiled. Both are great losses, and the latter not the least; for barley straw well housed is excellent fodder, but greatly lowered in value by bad harvesting.

harvesting. After the fields are cleared, they are raked with an instrument generally called a *dew-rake*, from its being used in the dew of the morning: a man draws it by a broad leather strap. This is a very bad contrivance; the work goes off very slowly, and, being hard, the men often neglect doing it well, and much corn is left in the field. Instead of it, there is in some counties a machine, called a *horse-rake*: a rake ten or twelve feet long, drawn by one horse. This machine expedites the work greatly, at the same time that it does it much better. The use of it should be universal; for one will work against twenty men, as I have experienced, and the price is not above four guineas and an half complete.

BUCK-WHEAT.

THIS is a difficult crop to harvest; for the least improper treatment makes it shed the seed in the field, to the great loss in product: if ripe, it should be mown only in the dew, and left to dry in the field; and, if it stood but a few days too long, it must also be carted in the dew, or it will shed in carting. The grain being black, the colour of the sample is not a matter of consequence.

PEASE.

ALL strong crops of hog-pease must be hooked, and not mown, and great care should be taken of turning the heaps after rain; for the stalks and leaves are so succulent, that the straw will presently spoil if it is neglected,

and, if well got in, it is good fodder for most sorts of cattle. If they are stacked, great care must be taken to thatch the rick immediately, and to do it perfectly well; for a little wet getting in will be of great damage to the pease.

It has been recommended in some books of husbandry, to stack the hog-pease in a convenient place for fattening hogs, ready to cut down in slices for the swine, as fast as they eat them, to save the expence of thrashing; but it is execrable husbandry: the saving is contemptible, but the loss great. Lean hogs in a yard will eat up pease clean, and in much straw leave scarce any; but the case is very different with fat ones: they will eat only the pease that are next their noses, and tread half into the dung.

BEANS.

BEANS are always reaped and bound in sheaves, like wheat, and being generally late in harvest, and extremely succulent, they require being left a good while in the field; and for the same reason, they should be tied in small sheaves. In binding, there are variations: the bands are made in some places of wheat straw; in others of yarn twine, which will last two years, if the thrashers are careful to save them. Beans do very well in a stack.

TURNIP AND RAPE-SEED.

CROPS of turnip-feed, and rape or cole-feed, are extremely various, uncertain, and subject to many misfortunes: they must be conducted with
4- great

great spirit, or the loss will probably not be small. The principal point is to make good use of fine weather ; for, as they must be thrashed as fast as reaped, or at least without being housed or stacked, like other crops, they require a greater number of hands, in proportion to the land, than any part of husbandry. The reaping is very delicate work ; for, if the men are not very careful, they will shed much of the seed. Moving it to the thrashing-floor is another work that requires attention : the best way is to make little waggons on four wheels, with poles, and cloths strained over them : the diameter of the wheels about two feet ; the cloth-body five feet wide, six long, and two deep, and drawn by one horse : the whole expence not more than thirty or forty shillings. I have, in large farms, seen several of these at work at a time in one field. The turnip, or rape is lifted from the ground gently, and

dropt at once into these machines, without any loss: they carry it to the thrashers, who keep hard at work, being supplied from the waggons, as fast as they come, by one set of men, and their straw moved off the floor by another set; and, many hands of all sorts being employed, a great breadth of land is finished in a day. All is stopped by rain, and the crop much damaged: it is therefore of very great consequence to throw in as many people as possible, men, women, and boys, to make the most use of fine weather.

GLEANING.

THE custom of gleaning is universal, and very ancient: in this country, however, the poor have no right to glean, but by the permission of the farmer; but the custom is so old and common, that it is scarcely ever broken through.

through. It much behoves the farmer, in some places, where it is carried on to excess, to make rules for the gleaners, and not suffer them to be broken under any pretence whatever.

The abuse of gleaning, in many places, is so great as deservedly to be ranked among the greatest evils the farmer undergoes: the poor glean among the sheaves, and too often *from* them, in so notorious a manner, that complaints of it are innumerable. Make it therefore a law, that no gleaner shall enter a wheat field until it is quite cleared of the crop: this is the practice in many places, and great advantages are found from it. But, upon this plan, always desist from turning any cattle into the field, until the poor have gleaned it; for, if a use is made of keeping them out while sheaves are there, merely for an opportunity of turning hogs and other cattle in, it is a double dealing, and a meanness unpardonable.

HARVESTMEN.

THE agreements with harvestmen, in various parts of the kingdom, are extremely different, and even in the same place there are many variations, some farmers pursuing one method, and some another. A common way, in some parts, is to agree with the men, for all, by the acre ; to reap or mow, turn, shock, make, cart, stack or barn, drive, &c. &c. to do all the business of the harvest, in short, at so much *per* acre : this is a very good way ; but it requires a man to be almost as watchful as day-work ; for a very strict eye should be had to the *manner* in which every thing is done ; that the men do not cut your corn at improper times, that they take proper care to turn it after rain, and to get it, perfectly dry, into the barn. A pretty sharp attention will be requisite

to all these points, and many others. On the other hand, when the work is done by the day, month or week, it requires constant attention, early and late, to see that the men work their hours, and that upon *carrying*, in dubious weather, they work as long as they can see, unless the dews are heavy; for it is a maxim in most countries, that men are not to talk of *hours* in harvest, but to do whatever they are ordered.

In many counties, it is the custom to board the harvestmen, and in some they are fed at an extravagant rate: I would by all means advise the oeconomical farmer to vary this matter, if possible, unless the men really work at a great rate, and stick to it early and late; but, if the custom is rooted so deeply, that they will not give it up, then it is an object of attention to make the expence as moderate as possible, which must be by a previous plan of fattening a beast or
two,

two, and a few sheep for the purpose; and also by providing whatever else may be consumed.

FARM YARD.

AT the leisure time of harvest, such as the wet days, when the team cannot carry corn, and while all the harvestmen are employed in reaping and mowing, if the works of tillage do not require attendance, let the horses and oxen be kept to earth-cart, to form the bottom layer in the farm-yard, carrying marle, chalk, turf, ditch earth, or pond mud: the quantity in proportion to that of the dung, which you expect will be raised in the ensuing winter. This work, it is probable, will not be completed this month.

TURNIPS.

THE second hand-hoeing of the broad-cast turnip crops must be given some time this month, nor should it ever be omitted on account of works of harvest. In counties, where turnip-hoeing is a common business, there is no difficulty in this, as men enough are always to be had. In some places, many of them make it their business to hoe all harvest through, earning more at it, than by other field work. But in countries where hoers are scarce, a farmer should always consider his turnip crops when he agrees with his harvestmen, and hire a sufficiency to set them to hoeing as regularly, when the turnips want it, as to reaping, when the wheat is ready.

Look well to your drilled crops: both the horse and hand-hoeings must be given whenever weeds arise, or the land seems to be growing adhesive.

CABBAGES.

THE beginning of this month, the second horse-hoeing should be given to the *Midsummer*-planted crop of cabbages: the earth thrown into a ridge, in the middle of each interval, by the first, should now be split by the double mould-board plough, and thrown half to one row, and half to the other: this earth, which has been for some time exposed to the weather, will be in fine order for the young fibres of roots to spread in; nor should it be stirred by the succeeding operations: for the cabbage is a plant of such a luxuriant growth, that the roots have power to follow the well-pulverized land thus thrown up, and the cabbages will certainly be of a size proportioned to the quantity of food the roots command. Care should also be taken to keep the tops of the ridges perfectly

perfectly clean from weeds by the hand-hoe: none should be suffered to grow; for on this part of the management much depends.

SOW CABBAGE-SEED.

THIS is the season of sowing for those crops that are transplanted in *April*, or the beginning of *May*. Plough a piece of well-fallowed land until it is as fine as a garden; then manure it amply with very rotten dung, and turning it in, harrow in the seed: a pound of seed to every four acres of the intended crop.

POTATOES.

THE potatoe crops in rows must be hand-weeded, if necessary; but it is now too late to hand-hoe any crops. If the intervals

intervals are weedy, or bound at all, or the plants not sufficiently earthed up, run the cultivator through them, which will cut up weeds, and loosen the earth: after which the common swing-plough, or the double mould-board one, will strike them clean, and throw the earth against the rows, banking them up: this is very necessary; for the running roots and fibres will follow such new thrown-up earth, and encrease the crop.

LUCERNE.

THE drilled or transplanted lucerne will be ready again for cutting: attend well to the state of the land, and take care to keep it in loose, well-pulverized order, and perfectly clean from weeds.

SAINFOINE.

IT will be now time to turn into the sainfoine fields that were mown in *June*; but you should be cautious of not feeding it with all sorts of cattle undistinguishably. Sheep, if kept too long on it, bite out the heart of it, by eating quite into the bulb. Cows, oxen, horses, and young cattle, may feed on it with perfect safety.

But let me here remark, that, in many farms, the after-grass for feeding is very little wanted; but hay particularly valuable. In such cases, the sainfoine, mown a second time, would pay far better than the feeding. The general idea is, that a second cutting is very mischievous to the plant; but, as no experiments were ever tried on this point, there is great reason to suppose it merely a notion. Possibly the original
might

might be a failure on some particular soils, or in some unusual circumstances; but there is no reason for thinking, that such a maxim should become general. I cannot but recommend it to some attentive cultivator of fainfoine, to try the point fairly, by mowing one half of a field twice every year, and the other half but once, and to continue the comparison until both parts are fairly worn out. This would decide the matter, and might prove of very great utility to numbers of husbandmen, who at present have adopted ideas of the cultivation, that may be very false.

BURNET.

THE latter end of this month, the crops of burnet, left for seed, will be fit for mowing: the seed is apt to shed, if care is not taken in mowing it. It is best thrashed in the field, like turnip
or

or cole-seed, and the straw made into hay. It yields very great crops of seed; and some persons have asserted, that it is as good for horses as oats; but no satisfactory trials of due continuance have been made on it.

FALLOWS.

A common fault with too many farmers is the neglecting their wheat and barley fallows throughout harvest, through a mistaken oeconomy in not having hands enough to keep the teams at plough while the corn is cutting: they should never be idle. It is true, all works should give way to carting corn that is ready for the barn; but there is no such necessity, while it is cutting, turning, &c. works that require men alone. We often see the summer fallows over-run with thistles, and other weeds, by the end of harvest, at the

same time that the teams have stood still three fourths of it. In defence of these manifest violations of good husbandry, they are too apt to adopt ideas consonant only with mistakes of the same kind. For instance: if you enquire the reason of a fallow being weedy, and the surface bound for want of ploughing, they will tell you, that land should not be fine for wheat, that the crop will not do without many clods, that if it is fine they should have nothing but weeds: all which shews plainly, that their fallows, so called, are no fallows at all; for fallowing land, without killing the weeds, is merely losing money, without any expectation of return.

DIG MANURES.

THIS is a work, which should never stop for hay, harvest, or any thing else, if the farmer has money in his pocket, and

and his plan is thus to improve his farm: the sooner the work is done, the longer he has the benefit. Suppose he has a vein or stratum of marle, chalk or clay, under his farm of light, unimproved land, and that he has hired it with a view to such improvement, it is very clear, that the sooner he gets the whole done, the greater will be his profit; for the longer he will enjoy the benefit of it. In such a business, teams should be appropriated to the carting these manures alone, and never taken from the work in harvest, seed, or other times; by which means a vast deal of work is done in a year. Suppose the team to be four horses, and two large carts; upon an average of distances around the pit, these will carry twenty-five or thirty loads a day. Suppose the former, and that you lay one hundred loads an acre, every four days you finish one acre, and in a year seventy-five acres. Hence you find, that you must proportion

the teams, so as to allow seventy-five acres for each, to finish the whole farm in the time intended: that ought to be a year; if the work is longer doing, it is a strong sign the farmer begins it without money enough in his pocket. Suppose he marles a thousand acres, he should set thirteen teams at work: but they should not be distinct, two carts to each, but three; one filling, one unloading, and a third moving.

FOLDING.

LET the sheep-fold never stop in this month: the flock will bear it well, and the benefit to the land too great to be omitted. Remember the general rule of folding the land that will be first sown, or turned in. You may continue to fold the lucerne lands as fast as they are cut; and in want of them, those for wheat.

HOGS.

THIS is a common month for the sows to bring their second litters of pigs ; and, if the farmer has not had the forecast to provide plenty of wash in his hog cisterns, he will find the disadvantage. Clover will not do for sows and pigs ; they must be fed on the skim-milk, butter-milk, and cheese-whey, that have been collecting together through the preceding months, while the dairy was at its height. Bran, pollard, barley, buck-wheat, or pease, ground into meal, and small quantities mixed in it.

CARROTS.

ABOUT the latter end of this month the carrot crop should be examined.

It will require a slight hoeing, not an expensive one; but just to cut up the few weeds, that may be supposed to have arisen since the last hoeing in June. If the former hoeings have been well performed, only a hand-weeding will do.

SEPTEMBER.

SEPTEMBER.

WHEAT.

IT has been found, by the practice of several counties, as well as from particular trials, that this month is the prime season for wheat-sowing. Sow the summer fallows in the first fortnight, and the clover-lays in the second; but let me, however, observe, that a *September* sowing is not recommended to be practised, at all events: because, if the month proves very dry, it will be proper to stay till rain comes; but *September* scarcely ever passes without plenty of

S 4 rain.

rain. It is, in that respect, a surer season, on an average, than *October*.

In wheat-sowing, the first object is the seed: of this there are so many sorts, that it is very difficult to assert which is the best; but the white wheat, and the red *Kentish*, are reckoned the finest sorts for producing the whitest flour: but in many of the clay and wet loamy countries in *England*, the farmers prefer what they call *great* wheat: in some places they term it *clog* wheat, in others *rivets*; but the true name in common is, I believe, bearded wheat. It sells generally for about one shilling and six-pence, or two shillings, *per* quarter less than the other sorts; but, from its hardiness, it more than pays this deficiency in a superior produce.

In respect of preparing the seed, the use of steep is now banished, by common consent; but it is proper to prepare it for other purposes. It is a good way to wash it in fair water several times;

times; because, if any of it is smeared with the dust of smutty or burnt wheat, you will thereby waste off such dust, and have, according to the opinions of various persons, the cleaner crop. But a more visible use of washing is to discover the light, chaffy grains; for, all that does not sink quick to the bottom, should be skimmed away with a quick hand: by which means you are sure of sowing none but the soundest and weightiest grain. Steeping or washing in strong brines, or urine, has one good effect, though not a fructifying one, that of preserving many of the grains from being eaten by the worms, grubs, &c. After steeping and washing, it is usual to lay the wheat on a heap, and mix some salt with it, and then dry it with lime. In dry seasons, the salt is of use in attracting moisture to the seed, and thereby making it sprout the readier.

It is a dispute in some parts of the kingdom, whether the wheat-lands should

should be ploughed on to the broad, flat lands, or on narrow, round ridges; the first about a perch over, the latter three feet over. On the first, the seed harrowed in; and, on the second, ploughed in, in forming the ridge. If land is apt to be very wet, or lies so that the water does not readily run off, the three-feet round ridges are much to be preferred; because every furrow is a drain, and, if the water-furrows are well cut, not a drop of water can remain on the land; but on drier soils, or those that have been well drained by under-ground drains, the flat lands are better, being more equally cropped.

Two bushels are the quantity usually sown on an acre of land; but it has of late been the fashion to recommend a much smaller quantity.

A circumstance of much importance in the culture of wheat, but oftentimes strangely neglected, is water-furrowing: this work should be well and effectually performed

performed on all lands, except those that are perfectly dry all winter through, and such are seldom sown with wheat. The water-furrows should be ploughed as soon as the field is finished sowing, ploughing, &c. and then a spit should be dug out from the bottom of them, and laid on one side opposite the rise of the land, and the loose moulds shovelled out: the openings of all the furrows should likewise be cleansed, so that the water may have an easy fall out of every furrow into the water ones. The number of these must ever depend on the variations of the surface; the only general rule being to make them so numerous, that no water can stand on the land in the wettest weather. In bottoms of fields, or other places, where there is a double slope of the land, it is necessary to cut double water-furrows, about a yard or four feet from each, to take water from each descent.

Wheat is often sown on clover land,
and

and it is the most profitable culture of that grain. In the ploughing up the lay, a most excellent practice is to trench plough it: that is, to let one plough go first, and take off a thin slice, about four inches deep, and then another plough in the same furrow, to get a further depth of about three inches more, raising up the mould, and burying the turf with it: the surface then harrows fine, and the wheat has a bed of mould to lie in, instead of the furrows only of single-ploughed clover land.

Another culture of wheat is to sow it on a bean stubble, which is very good husbandry, if the beans were kept in excellent order; but the land, unless they were drilled and horse-hoed, will require three ploughings; and consequently it may be found adviseable to defer the sowing till *October*: but this month should be made use of for the tillage. Soon after the beans are carted,
the

the land should receive the first ploughing, and, before the expiration of the month, the second should be given.

CLOVER.

THE second crop of clover will not, in many soils, be ready to mow before the first week in this month. One very great advantage of manuring land richly is to force the growth earlier: the short days and heavy rains, common at this season, are very unfavourable to hay-making. As you may very probably find the inconvenience, and have your hay damaged, do not forget the remedy of salting it: throw a peck of salt in the stacking to every load of damaged hay, and it will recover it well.

Such of the crops of clover as were fed, should now be cleared for wheat-sowing: the swine in particular should be turned from the clover into the woods,
for

for feeding on acorns and mast. Attention of this sort should always be given, or the profit of a business must suffer.

SHEEP.

THIS is the principal month in the year for stocking yourself with sheep; and you should therefore consider well the nature of your farm, that you may fix upon that sort, which are most likely to pay the best. The sorts commonly bought are the following:

1. Stock ewes, young.
2. Ewe lambs.
3. Two or three-year-old wethers.
4. Wether lambs.
5. Old ewes.

And the breeds of sheep are principally these:

1. *Teefwater.*
2. *Lincolnshire.*
3. *Dorsetshire.*
4. *Wiltshire.*
5. *Hertfordshire.*
6. *Norfolk.*
7. *Welch.*
8. *Moor sheep.*

As to the breed, it is a matter of great importance, that you buy an excellent good sort, whatever your land; but the size must be proportioned to the food you have for them. If your soil is poor, light, sandy land, with a very spare bite, the *Welch*, *Moor*, or *Norfolk* sheep, will suit best. Such land can only keep a regular flock of stock sheep, but never fat any. You should therefore buy these hardy sorts, and improve the breed by well-bred tups of a small size. But remember in chusing your tups, that no evil is so great on such lands, as a tender breed. Upon good soils, that afford plenty

plenty of excellent food, you must have recourse to the larger breeds. The *Teeswater* are the largest sheep in *England*; but I do not think those very large sheep fit for any but the very richest pastures, worth from thirty to forty shillings an acre. The *Lincolnshire*, though a less breed, must be ranked in the same class. For all middling lands, (for instance, from ten to twenty-five shillings an acre rent) the *Hertfordshire*, *Dorsetshire*, or *Wiltshire* breeds, are preferable to any of the rest: these are all well-made sheep, and will rise, with good management, to a very great value.

The first sort of sheep in the above table, viz. young stock ewes, are proper for those persons, who design to keep a regular flock, for the three articles of profit, lamb, wool, and folding. A farmer, when he purchases stock of this sort, should consider well his land, and take care to proportion the number, as well as he can, to the food he shall have
I for

for them. This is a very profitable application of inferior pastures, of clover, ray-grass, burnet, and common sheep-walks; also of using any right of commonage annexed to his farm; and he must also appropriate a certain quantity of turnips or cabbages for the winter maintenance of such flock. Upon an average of crops, he ought to have ten acres to every hundred sheep, and a piece of burnet, or ray-grass, to take them in the spring. The folding business should never stop with a flock of this sort: in the depth of winter, it should be carried on, either on dry gravelly pastures, or under cover, on plenty of litter. Perhaps, the profit of these sheep, supposing the ewes to be bought in at two years old, and to be worth fifteen shillings, may be as follows:

T

274 THE FARMER'S

Wool,	-	-	-	£. 0	4	0
Lamb,	-	-	-	0	10	0
Folding, at least,	-	-	-	0	1	6
Total,	-	-	-	0	15	6

But this depends on the breed being as I have said of the middling size, and of the best sort; the *Hertfordshire*, for instance.

The profit of the poorer sorts, such as the *Norfolk* breed, will not rise to near this amount: they may be calculated as under:

Wool,	-	-	-	£. 0	1	0
Lamb,	-	-	-	0	7	6
Folding,	-	-	-	0	1	0
Total,	-	-	-	0	9	6

Another method of managing young ewe sheep is, to buy them in in *September*, to keep them upon the poorest lands of a farm till they lamb; then to draw

draw them off to turnips or cabbages : not to eat as much as they please, but to bait them enough to keep them in good order ; and in the following summer to sell the lambs as soon as fat, and afterwards fat the ewes ; getting rid of both within the year, from the time of buying in : the account may be stated thus :

Wool,	-	-	-	£. 0	4	0
Couple,	-	-	-	1	10	0
Folding, about four months,				0	0	6
				1	14	6
Cost of ewe,	-			0	15	0
Profit,	-	-	-	0	19	6

In this management, it is a matter of great importance to have the ewes lamb early, so that the lambs may be fat, and ready to sell, the beginning of *May* at furthest. If care is taken to have plenty of turnips, cabbages, and early grass, the profit on a good breed

may be carried higher than this account. Fat grass lambs are often sold the beginning of *May*, at nineteen and twenty shillings a-piece, of the best *Hertfordshire* breed.

The second sort of sheep, *viz.* ewe lambs a year old, are in some places bought in, at this time of the year, to sell fat by that time twelvemonth, after the lambs (fat) have been drawn by the butcher. This is but an indifferent conduct, much inferior to several other plans.

The purchasing wethers, of two or three years old, is a very profitable management. A good method is to buy them at this time, to keep them bare through the winter, only baited at turnips or cabbages; however, in good order enough to fold constantly on the dry grass lands: to continue them on but indifferent food, folding till *July*; then to throw them into good grass, and from thence to turnips; from turnips

nips to cabbages, and not to sell till *April* and *May*, when mutton is dearer than at any other time of the year. This account may be stated thus :

The wether, fat,	-	£. 1	7	0
Wool,	-	0	5	0
Folding,	-	0	1	6
			1	13 6
Prime cost,	-	0	16	0
Profit,	-	0	17	6

In this method, near the first year is passed for the folding, by which means you have a full folding stock all the year round ; and it is observable, that the profit of that manuring, though I attempt partly to calculate it by way of proportioning the sorts of sheep, yet is it much more considerable than mentioned in any ; and, in a long course of years, beyond all calculation. This flock of wether sheep is very advantageous

in one respect, which is their hardiness, and their being little liable to accidents, nor near so troublesome in attendance in winter as ewes.

Wether lambs, a year old, are in some places the stock bought in at this time, and sold fat in a twelvemonth from grass, which is a profitable management.

Lastly comes the stock of old ewes; but this article must be explained. In the stock flocks that are never fattened, a varying number of the oldest ewes are every year drawn out, sold, and the same number of lambs kept in their stead. The rule of drawing the old ones is the state of their mouths. When their teeth fail, so that they cannot fare well on the sheep-walks, nor stand the fold, they pick them out, and, driving them to fairs at this time of the year, sell them to farmers who do not fold, and who buy to fat within the year on richer grounds: this is a very profitable management.

agement. The breeds are seldom good, as they come generally off of poor sheep-walks: so the price is proportioned from five to ten shillings, about seven shillings and six-pence an average: they are kept hard till they lamb, then are helped with some turnips, and well kept till the lambs are drawn off fat, after which the ewes fatten, and all are gone within thirteen months. The couples sell in proportion to the first cost; but, if you have pretty good luck, you will treble it. If they cost six pounds a score, they will fetch eighteen pounds: this sheep management is as profitable as any a farmer can fix on.

FATTING BEASTS.

YOU must now be very attentive to the state of your fatting beasts, and the remainder of your grass. It is no uncommon thing to have food fall short

in this month: see therefore that your cattle do not stop for want. A beast that is nearly fat must have plenty; because he is nice, and, if he is at all curtailed in his pasture, will fall away. The middle of this month, there should be a large breadth of mown ground untouched, ready to turn into; and some should be quite fresh for them the very end of this month, to take the beast, and carry him pretty far into *October*.

Remember that beef is cheaper at *Michaelmas*, than at any time throughout the year; for all grafs-fed cattle are then at once brought to market: this should give the attentive grazier an idea of varying, as much as possible, from the common method: to sell only a part of his cattle at this time, only such as are so fat, that they would be unprofitable to keep longer, and to put the rest, when all the grafs is done, to turnips or cabbages, 2

COWS.

THE dairy of cows must have plenty of grafs throughout this month, or their milk will be more apt to fail than at any other season of the year. Lucerne, mown green, and given them in a yard, is the most profitable way of feeding: the product is so singular, and so little dependant on the seasons, that it is a very easy matter to proportion the dairy to the plantation of it, and never be under a want of food; for lucerne, mown every day regularly, will carry them at least to the third week in *October*; and, although some persons have asserted, that cows will not give so much milk thus managed, as when they range at large, and feed how and where they will, yet it is not a matter of enquiry; because, if they give but half as much, that half will assuredly pay more clear profit,

profit, than *all* in the other case: there may be some inferiority; but the cows are kept on so trifling a quantity of land, that there remains not any comparison between the methods, for profit.

THE TEAMS.

THESE must be kept at work close, or let the farmer remember he loses money by them. Wheat-sowing is one of those works, in which we usually stretch a point, and make the ploughs do a quarter of an acre each extraordinary. Both horses and oxen should be kept this month to lucerne, mown every day: they will work as well on it as any other food; but, while they plough, they must now have oats and chaff with it: for no grass, at this season of the year, is so nourishing as it was in the summer.

MANURE GRASS.

GRASS lands should always be manured with composts, and never with dung alone, for many reasons: dung should never be kept until it is so rotten, that it will wash into turf; because, by that time, it loses its virtue at a great rate, and, while in full fermentation, it is of such great utility to arable land, that a greater profit will so arise from it, than by laying it on to grass. Besides, there are many succedaneums for dung, or at least for making it go much further on grass than on arable: the proper composts are chalk, clay, turf, ditch-earth, pond mud, lime, ashes, foot, with some dung; all, or some of these mixed together twice in a twelvemonth, will be in excellent order for spreading on grass lands, and will be highly sufficient to keep them in great heart, with but a small

small quantity of dung. This is the proper season for carrying such composts on : lay about fifteen or twenty loads an acre, not more. It is difficult to overmanure arable lands, but very easily done with grass; because large quantities do not wash in quick enough. Let the compost heaps be spread very regularly, which is much more necessary than on arable. A good farmer will manage to give his pastures, unless they are very rich, a dressing of compost every two years.

SCARIFY GRASS LANDS.

SCARIFYING grass is a new practice of some ingenious gentlemen, but not yet become common husbandry. It consists in cutting the turf with a plough of nothing but coulter, or with a ploughing harrow : so that the surface may all be cut or torn : this operation is
on

on principles directly contrary to the common idea of rolling in autumn, which is done with design, not only of levelling for the scythe, but also of pressing the surface as much as possible, for which the heaviest rollers are chosen, until some are worked, that require six or eight cattle to draw.

If there is any fault in the nature of turf, which prevents the ground yielding crops proportioned to its fertility, it is the surface being so bound by the network of roots, which are matted through it, to the exclusion almost of the influences of the atmosphere. Now, rolling encreases this evil; the more you compress the soil, the less pasture will the roots have: but scarify it, tear it well in pieces, you in fact horse-hoe your grass, and give the roots loose earth to shoot into; but, if your design is to manure, this argument is yet stronger: for, after the surface is scarified, the compost being spread, much of it will at once fall into
the

the furrows of the teeth or coulter, and consequently be immediately deposited, where you would wish, at the roots of the grass. Every one knows in general, the trouble and difficulty of getting manure into grass land: how many times you must harrow, bush-harrow and roll, before it disappears, and at last the effect is very partial; for but a small quantity gets to the roots. Half this labour, after scarifying, would do it far better.

But here let it be observed, that there is an effect of rolling so visible, that it cannot be disputed, which is, the bringing a finer blade of grass, and giving a better winter verdure, partly owing, however, to the levelling the worm-casts, which being of a different colour, their disappearing, of course, makes the green still greener: for lawns, in sight of a house, therefore, the more you roll the better; but not for a great product of hay.

BURNET.

OBSERVE not to let any cattle pasture your burnet fields after mowing, either for seed in *July*, or for a second crop of hay in *August*; for the greatest peculiarity of this plant is to afford a full bite in *March*; and, if you leave it six or eight inches high in *October*, you will be sure to find it eight or ten high the beginning of *March*, and in the full possession of all the leaves and luxuriance it had in autumn; for the winter's frosts have no effect on it. Upon this caution, therefore, depends the principal advantage of burnet: those, who have found great fault with it, and asserted, that it is utterly unprofitable, have fed off the after-grass in autumn bare, and let their sheep and cattle get into it in winter. It is then no wonder the burnet
does

does not answer the character given it by others, who have managed totally in a different manner.

FERN.

NOW is the proper time to cut fern, called, in some places, brakes and brakens. This is most profitable work, and should never be neglected. Carry it into your farm-yard, and build large stacks of it for cutting down through the winter, as fast as the cattle will tread it into dung; also for littering the stables, ox-houses, cow-houses, hog-sties, fatting-sheds, &c. &c. By having great plenty of it, you will be able to raise immense quantities of dung, which is the foundation of all good husbandry; and it is well known, that no vegetable yields such a quantity of salts as fern: from which we are to conclude, that it is best adapted to the making manure. The good farmer, in
this

this work of bringing fern, should not confine himself to his own wastes, of which he may have none, but purchase it of his neighbours, if they are within a tolerable distance. It will answer exceedingly well: he need not therefore fear paying for it, as for refuse straw.

STUBBLE.

THIS month is the proper time for chopping the wheat and rye stubbles, and raking into heaps, for carting home to the farm-yard for litter, upon the same principles as fern is carted there. This is a business strangely neglected in most parts of the kingdom; but is nevertheless of very great importance: the stubble left on the land is of no advantage as a manure; but it prevents the plough from turning in the land with any tolerable neatness, and, if the quantity is considerable, it will be such an ob-

U

struction,

struction, that no plough can perform its office at all; but carted into the farm-yard, it becomes an excellent manure. Any sort of litter there is valuable, and serves for the cattle treading into dung. In those parts of the kingdom, where this use of stubble is common, the price for chopping and raking into heaps is from one shilling and four pence to one shilling and eight pence *per* acre: a very small expence, compared with the great advantages that undoubtedly result from it.

HOPS.

FORWARD plantations are ready for picking in *August*; but this is the principal season for it. Plenty of hands should, on all accounts, be provided for this important business: women do it as well as men: it is a work rather of care than labour. After the picking,
you

you must pluck the haulm from the poles, and dispose the latter in proper order for the spring following.

PLOUGH FALLOWS.

NOW let your ploughs turn up all sorts of stubbles: this is one of the material parts of husbandry, in which the common farmers are greatly wanting: they form very mistaken ideas of this part of husbandry, suffering their lands designed for fallows, and some even for spring crops, to remain till after barley-sowing, before they break them up. The principal reason they give for this conduct is the benefit of feeding them with sheep. As to the point of the land being better or worse for its exposure to the atmosphere during the winter, it comes not at all into their enquiry; for they comprehend nothing of the matter. But let the attentive husbandman, who

does not give up all his ideas of common sense, in compliance with the old customs of his brethren, consider a little before he leaves his fallows till the spring without ploughing. He must be sensible, that the air at all seasons, especially in frosty weather, pulverizes the clods. In the middle of summer, when the land is hard baked, such an effect may be doubted ; but, if you stay till rain comes, and succeeding various weather, the fact will be sufficiently clear. Now, the farmer should consider, that pulverization of his land in winter is alone a matter of consequence ; because it is a sure method of making the weeds grow ; and let them ever remember, that they cannot kill weeds, if they do not grow. If the fallows are ploughed up in this month, and left well water-furrowed till *March* or *April*, they will by that time be covered with weeds : the first spring ploughing destroys all these. Can any one think it a matter of little consequence

to

to effect this? Every seed, that vegetated in consequence of the autumnal ploughing, would have remained safe locked up in the land until the spring ploughing, and then, if any crop is sown, it is sure to be full of those weeds, which an autumnal ploughing would have raised, and the seed earth destroyed. To kill weeds, they must be made to grow, and, when once they are above ground, a ploughing destroys them: so that, if a farmer breaks up his stubbles in this month, and sows on one spring earth, he kills all weeds that have sprouted, at the same time that he ploughs for the crop: all which weeds would have grown up with his crop, had he sowed it only on the ploughing.

With the fields designed for fallows, the case is pretty nearly the same: ploughing at this time of the year has the effect of making the seeds of weeds vegetate: so that such of them as survive the winter are destroyed by the first

spring ploughing : this gives the farmer an opportunity of harrowing after that earth, and leaving the land for six weeks for another crop to come up, which, like the former, is destroyed by the next ploughing : thus the autumnal tillage is absolutely requisite for the mere work of killing weeds, without recurring to the attraction of any beneficial particles from the air.

The latter effect may appear very equivocal to a common farmer, never used to consider things deeper than first appearances. Unhappily, this is a part of husbandry, on which we can only speak from idea, and not in the least from experiment. Of all the volumes that have been published on husbandry, none gives one a clear proof of the acquisition of manure from the atmosphere : the benefit of fallowing is no *clear* proof ; because it is never experienced exclusively of killing weeds, and, unless such effects were known distinctly, one cannot,

not, with any precision, attribute a certain degree to each. As experiment has not, and probably will not, prove this important point, it remains for the disquisition of reason alone, which may adopt whatever ideas appear most just to individuals. There are many arguments to be produced, to shew, that the great benefit of fallowing, at whatever season, is the destruction of weeds, and mere pulverization, without any reference to supposed acquisitions from the air: a strong one is the equality of crops that succeed complete fallows, and other crops: the latter, if sufficient care has been taken to destroy the weeds, are generally as good as such as follow complete summer fallows. Wheat, for instance, after beans well hand-hoed, is as good: after pease, if a great crop, the same, without any hand-hoeing at all; after clover also, in which the land is bound, and matted together with roots: and the great fertility of new

broken-up grass lands should look, as if the very contrary state to fallowed lands was most beneficial. Many writers talk of the great benefit of thick shade, and the putrid fermentation of thick and luxuriant crops. It may all be very true ; but surely the whole is founded on principles extremely different from the acquisition of aerial benefit by fallowing ! I know of none, in which they agree, but the killing weeds.

The acquisition of nitre, say some, is well known to be greatly effected by land being ploughed on to the ridge in winter ; and nitre, say others, is the principle of vegetation. This fact, of nitre being so very beneficial, seems rather to be a deduction of reason, than an experimental proof. Salt-petre, in every application, has often been proved rather poisonous than beneficial. Why, therefore, should we suppose it of such consequence in the air ? I am by no means *asserting* the contrary, but only expressing doubts

doubts of those maxims, which do not seem to have had experiment for their foundation. Let us, for these various reasons, be contented with recommending autumnal ploughing to the husbandman, on principles that he can understand, and effects which are visible to him, pulverization, and the killing of weeds : and not persuade them to the practice, for reasons, which are *Greek* and *Hebrew* to them,

WATER-FURROWING.

MAKE it a rule to water-furrow all your fields, as fast as the plough leaves them: this is a most important work on autumnal ploughings ; for the dryness and health of the land depends on the cutting them with judgment and spirit. Farmers are sometimes backward in this point, in giving even their wheat crops fair play ; but not one in twenty, where

where it is customary to plough up the spring-corn lands and fallows before winter, will be at the expence of doing well by them. This is a fatal saving, and attended with the worst consequences. Make the ploughmen, before they leave the fields, draw out the furrows in such places as will best lay them dry: then the labourers should with spades dig a spit out from the bottom of the furrow, and lay it on one side, shovelling out the loose moulds, and also paring down the sides of the trench, leaving it in neat husband-like order: they should with care open the furrows of the ploughing, to let the water into it; and, in general, make it a rule to leave the field so cut, that no water can any where lodge. Compared with the advantages of the practice, the expence will not bear naming. Many farmers are too apt to neglect the digging, only shovelling out the loose earth left by the plough; but water-furrows,

furrows, so carelessly made, presently require deepening, and never answer the end designed, with any tolerable accuracy.

LUCERNE.

YOUR drilled or transplanted lucerne will yield another cutting probably this month; but, at furthest, the first week in *October*; after which cutting, the succeeding short growth is no object; but, if it is cut the beginning or middle of this month, the case is different, for you will have another the end of *October*. But, whenever you take the last, make it a rule to manure the whole plantation from the compost dunghill; chalk, marle, turf, rotten dung, ashes, foot, lime, malt-dust, &c. &c. will make a very rich mixture for it; and, as it is done every year, a small quantity at a
time

time will be preferable: for instance, twelve large loads an acre. As soon as the manure is spread equally over the ground, send in the common ploughs; and, if the lucerne is drilled in single rows, go a bout in each interval, opening the land in the middle of it, and throwing a ridge over each row; by which operation the whole field will look like a fallow one, in ridges, under which are the rows. And it has this great advantage, that all the manure is gathered exactly up, and deposited on the plants, being at the same time covered in from the weather, and each furrow is a drain: so that, if the water-furrows in the field are well opened, not a drop of water can any where lodge. The first dry weather after *February* in the spring, the ridges must be several times harrowed across, enough to level the whole field, and so left for the young shoots to come through.

Let

Let the cultivator of lucerne remember, that one acre, managed in this complete manner, will pay him better than many conducted in the method but too common. It may appear a species of extravagance to manure a crop every year; but lucerne requires much manure: it will, on good land, yield very beneficial crops without any; but, to be carried to the highest perfection, not only of *product*, but also of *clear profit*, it must have great plenty of rich manure. Lucerne has been carried to a product of above forty pounds *per acre per annum*; but it was by being planted in a piece of ground as rich as a dung-hill.

FOLDING.

NEVER omit folding, under any pretence whatever. After the wheat is sown, you may fold the land you intend to sow with beans in *October* and *November*; which are a very profitable crop, and will pay you well for giving them this dressing.

OCTOBER.

OCTOBER.

HIRING FARMS.

THIS is the month for hiring and stocking farms, and moving from one to another. Upon such occasions, the farmer should have all his senses about him: he should be equally clear-sighted to all the advantages of a farm, and all the disadvantages, that he may be able to draw a balance between them, and compare that balance with the rent demanded. Let him remember, that he must equally discard a too solicitous prudence, which doubts every benefit, and a too daring courage, which over-

looks or lessens real evils. It must be open to almost every person's observation, that the common farmers lose themselves very much in deliberating concerning a farm: they have so many mistaken rules of judging, that we very often see them reject farms that, soon after, prove the fortunes of such as hire them: they are very apt to take one false guide in particular, the success of the last tenant. If a man makes a good deal of money on a farm, or leaves it for a much larger, numbers will immediately apply with great eagerness to get it, almost without viewing; but, if a tenant or two breaks, or is poor on a farm, most of the neighbours consider little further: they attribute all to the land, and avoid it, under a strong idea, that, without a fall of rent, no money can be made on it. All these notions are absolute absurdities; for the management of various farmers is so essentially different, that success depends very little

on rent. A farmer, with a proper sum of money in his pocket, hires a farm, and thrives on it; another, with an hundred pounds less, hires it, and starves. Two farmers of the same substance: one manages his land with spirit, makes all the manure he can, sells no straw, does not cross crop his fields, drains them, and keeps his fences in good order: he grows rich. The other, a sloven in these particulars, falls into poverty on the same land. These are the circumstances, that make one man rich, and another poor; very seldom rent: and surely it must be apparent, that succeeding occupiers judging of the respective farms by the different success of these farmers, is the taking as blind a guide as they can possibly fix on.

Let the farmer, that is debating, whether he should hire a farm that is offered him, examine the soil well, to be able to determine its nature, the stiffness, moisture, exposure, levelness, slope, stoniness;

ness; what draining, manuring, fencing, &c. &c. will be wanting: let him see to the roads, distance of market, prices of commodities, labour, &c. let him fully acquaint himself with the state of tythes or gathering; if the latter, let him at once reject the farm. He should know the poor rates, attend to the compactness of the fields, and consider well the covenants relative to the cropping them; for many such are extremely detrimental to a good conduct of the land.

One general rule in hiring a farm should never be forgotten: fix on good land, and you can scarcely pay too much for it; but, for poor soils, the least rent is too high to be consistent with profit. By *poor soils*, however, are not to be understood such as have a command of lasting manures, that work great improvements, nor waste lands that, under that false denomination, are often found the richest of all.

The mellow, rich, putrid, crumbling clays, or rather clayey loams, are of all soils the most profitable: such as will admit tillage soon after rain, and do not bake on hot gleams of sun coming after heavy rains, when fine harrowed; such land is better worth twenty-five shillings an acre, than many soils deserve a shilling.

Another matter of great import, in the hiring a farm, is the taking no larger a one, than the sum of money a man can command will stock properly. A common fault among farmers is the hiring too much land for their money: they are extremely eager to farm as much as possible: the certain consequence of which is the conducting the soil in a slovenly, imperfect manner. A farmer should never desist from any work, which he knows to be right, from a want of money; and he can only prevent such a situation, by hiring no more land than he can manage in a masterly manner:

For let any of them consider the difference between good and bad husbandry in all its branches, between the loss of one, and the certain gain of the other. Making a proper use of natural manures, such as marle, clay, chalk, &c. is never done but by farmers that have plenty of money in their pockets. In the neighbourhood of great cities and towns, variety of manures are to be had, in some places cheap; but, if the farmers have not money, how are they to make use of such advantages? For these, and many other reasons, a farmer should never think of venturing on a tract of land, which he cannot absolutely command; that is, farm as seems best to him.

SERVANTS.

THIS is the time that farming servants are chiefly hired, and the attentive cultivator should consider well, before

fore he determines on the number or the quality of his servants ; for it is no unimportant or trifling part of his business to conduct this matter in a proper manner, and with a due eye to the nature of his farm. A considerable business requires the employment of a bailiff ; and, as such a servant may have material effects on the conduct of a business, it is always right in a farmer to consider the nature of his own case well.

If his farm is extremely large, if his culture is very complex, occasioning as much business on one acre as five ; or, if he is absent a considerable part of the year ; in these circumstances, the employment of a bailiff is absolutely necessary : but there are so many sorts of bailiffs, that a man may qualify the measure almost into that of hiring a common servant. A working bailiff is but a step above a common head-man, answers extremely well for a small business ; but, in a large or complex one, will not an-

swer. In such a farm, his business is to be perpetually on the watch on all the people, of whatever sort, employed: consequently, he must not work, which confines him to one place, but employ himself totally in moving from one set of workmen to another: instead of labouring himself, his business is to see that others labour as they ought.

This part of his employment renders it necessary, that he should be of a rank something above the best sort of servants and workmen; for, if one from that class has the command given him, he will not be obeyed as he ought: a bailiff should ever preserve a due authority over all the people employed; and, for this purpose, his master would find it very useful to allow him to hire his own servants and labourers; or, at least, to give him liberty to turn any of them away whenever he pleased. The great use of such a train of conduct is, the farmer's having only one person to deal with.

with. Suppose he chuses to have any extraordinary work done, either in quantity or manner, a bailiff must be supposed to be far more willing to second his views, who does nothing himself, than common servants and labourers, whose labour effects the whole. In that case, and all others, a farmer should give his orders to the bailiff, not the men. Let him order such and such fields to be ploughed four inches deeper than common, or all his ploughs, for a time, to plough each half an acre a day more than common : never let him give such orders to the ploughman, but to the bailiff. Such an upper servant will not be able to see the execution of such orders, unless he has authority to turn away all offenders on the spot, and hire others that are more complying. And there is great reason to think, that a bailiff of that nature will be able to get more work done than any master in his

own person, unless he is one that works with his men.

Respecting all market transactions, all buying, felling, bargaining, and receiving money, it is highly adviseable for the master to do all business of that sort : it is very dangerous to trust these servants too much : not for fear of running away with money ; but numerous money transactions, of which it is impossible the master can have a proper check, have at least a tendency to give opportunities of dishonesty, which may have a bad effect ; and market meetings, for the transaction of this sort of business, are likewise too apt to hazard the sobriety of a bailiff. The farmers have, in most parts, a great aversion to what they call a *dry bargain* : they think an agreement stands for little, unless it is sanctified by a full-pot at least ; and, when the potation is at the master's expence, one pot has a wonderful attraction towards another, until the bailiff, who
ought

ought to have the clearest superiority over all other servants, too often comes home in a manner little adapted to preserve his authority. For these reasons, a bailiff should be kept to see that all other servants and labourers do their business as they ought, both respecting quantity and manner; the buying and selling should be executed by the farmer himself: and, if a just idea is first entertained of the proper business of a bailiff, there will be a greater probability of a good one's being hired.

As to other servants, the principal is the ploughmen; for on them depends, in a good measure, the success of all the crops. In a large business, it will be very difficult to have all good hands; but a man should aim at it as much as possible: for a bad ploughman, commonly so called in the country, makes very indifferent work, but skims over the land in an irregular manner, and rids half he goes over. But

let me remark, that the men, who have in general the reputation of being good ploughmen, commonly found it on straight or level ploughing: both which are excellent ingredients, and absolutely necessary; but depth should also be considered. In some soils, if a man comes after a bad ploughing farmer, he may new manure all his land by ploughing a few inches deeper than common; but most ploughmen have an aversion to ploughing deep; nor can you ever depend on its being done, if you do not, or your bailiff, watch them perpetually, and insist, in the most peremptory manner, on what you require being executed. This is one of the points, in which, if you keep a bailiff, you must give him your particular orders, and look to him for the general obedience of all the men, allowing him to turn away those that disobey his commands; and do not forget, that this is an object (deep ploughing)

ploughing) that cannot be too much attended to on many soils.

If no bailiff is kept, you must be much more attentive in the hiring your ploughmen: to chuse such as will probably be induced to obey your orders, without that round of murmuring and complaints so often heard from these people: if you do not get docile people, you will find great difficulty in having your land managed in the manner you like best. Shepherds, hogherds, cowherds, driving-boys, and all other servants, are now hired; and, as characters are scarcely ever given among farmers, it much depends on your quick judging of the accounts the fellows give of themselves; and, perhaps, their physiognomy may be of some use.

FARM YARD.

THIS being the last month that cattle will either be in the fields, or fed on green meat at home, the farm-yard should now be in perfect order to receive them.

Good and convenient yards are of such great importance to spirited husbandry of all sorts, that, in the hiring a farm, a man should attend to this point; but, if he finds himself on a farm, where it has been neglected, or that the advantageous circumstances of a new one more than balances such a matter; in either of these cases, let him determine to remedy it himself, which may generally be done at no great expence. Let him run a high, warm fence, about a piece of ground large enough for all his cattle, contiguous to the barns and other buildings.

It

It will pay the expence of good pales very well; but a much cheaper fence is to build a stack of stubble, fern, ling, or straw, about eight or nine feet high, and four or five wide, and to thatch it for preservation: no fence in the world is so warm for cattle. This inclosure he must gravel at bottom, to keep it always firm and hard enough to shovel up rotten dung on. Throughout the leisure times of the summer or autumn, a layer two or three feet deep, of marle or chalk, turf, ditch earth, &c. should be spread in it; and upon that layer the cattle should be foddered with straw or hay all winter. Plenty of stubble, fern, or straw, constantly spreading as fast as they tread it into dung, or lie wet or damp: the stables, cow-houses, hog-sties, fatting-stalls, if any, should be cleaned on to it; and, if the farmer fatts any beasts on turnips, he will find no method so good as to give them in bings in such a yard; by which means
the

the quantity of dung he will raise will turn out immense, provided he has plenty of litter; and no application of the turnip crop will pay better. Whoever will keep an exact calculation of the expences, will find it the cheapest way of manuring land. This is the system of farm-yards, laid down more particularly by a late author, and with apparent success.

THE TEAMS.

ABOUT the latter end of this month, the horses must be put to dry meat; that is, hay, oats, and chaff. Here begins the great expence of horses; for they must be fed at a considerable cost, or they will fall off in flesh, so as to be able to do but little work. The best of hay should be given them, and as much of it as they can eat; also as much chaff as they like: that arising from the crop, if there is enough of it; if not, straw and hay cut into chaff:

as

as to oats, if the horses are worked as constantly as they ought, they should be allowed two bushels *per* horse *per* week, which will be no more than sufficient to keep them in good heart, and make amends for the loss of lucerne: with this food they may be hard worked every day throughout winter.

But this system of feeding is expensive, and there is a way to lessen the cost greatly, which is substituting carrots instead of oats, or, at least, instead of the greatest part of the oats. It will answer extremely well to give two bushels of carrots for one of oats: for instance; instead of a quarter of oats to four horses, to give them two bushels only, and twelve of carrots. The proper manner of giving them, is to wash them quite clean when used, and then to chop them in pieces, and put them in the manger, with plenty of chaff: they will keep the horses in as good heart as oats, and, upon an average, in much better

better health. If you apply the chief of your carrot crop to other purposes, still you should determine to allow a small quantity weekly to all your horses, for the mere purpose of keeping them in good health.

The ox teams should be kept on straw and cabbages, and, in default of the latter, on turnips; but cabbages are much superior. Let them have good barley or oat straw always in their racks, and allow them about fifty pounds of cabbages each *per diem*, if they are large beasts. When you work them very hard, change the straw for hay. The vast saving of using oxen instead of horses, lies in the winter food: an ox, with this management, will do abundance of work; but a horse could not be so managed at all.

Lay it down as a rule to keep both constantly at work: there is not in the range of your business, especially if most of your farm be arable, an object that
requires

requires more attention, or one, which neglected, will make you suffer more severely. It is the custom of some farmers to feed their horses variously, proportioned to their work, giving them no corn when they do not work, and many of them only straw; but this is a bad way: for a horse that is not always kept well, cannot perform much work when it is wanted: the best way is ever to feed them very well, and keep them constantly at hard work.

COWS.

THE dairy of cows are now to be taken into the farm-yard, where their food must vary according to their state: the dry ones must be put altogether to hay, and those in full milk, in another yard, to cabbages, which it is absolutely asserted, on experience, will give no disagreeable taste to the milk; but they

Y

must

must have good straw given with them. Young cattle should be put with the cows in milk, as they cannot be kept too well. On no account, let any of these cattle out of the yards: they only peach and damage the grass fields, and lose flesh in worrying after a few mouthfuls of grass.

FATTING BEASTS.

THIS is the proper time to take the large fattening oxen, that have had the summer's grass, and put them to turnips, cabbages, or carrots: turnips with hay will do; but not near so well as cabbages or carrots: both which will fat a large ox as well as any food in the world. You may either stall-feed them under cover, or let them be loose in a straw yard, well littered in either case; and, if the latter, they should have open sheds to retire under at pleasure. This
saves

saves abundance of labour; for, if the beast is stall-fed, he will not thrive well, unless he is kept quite clean; and they dung and stale so much in fattening on any of these foods, that the quantity of litter they soil is surprising.

This is also the month for purchasing lean beasts of the smaller sort, for fattening totally on the same articles of food, particularly turnips and cabbages. In the months of *October, November, December, January, February, March, and April*, they will become as fat as their size will admit; that is profitably so for selling to the butcher. It is this plan of appropriating the turnips and cabbages of a farm to fattening beasts throughout the winter, in a well-littered farm-yard, that converts the straw, fern, stubble, &c. into mountains of dung, and improves the land more than any other method whatever.

HOGS.

NOW also put your full-grown hogs to fat: a business as profitable, particularly in respect to the improvement of a farm by dung, as any that can be undertaken. In this matter, a farmer (unless the price of corn is very low) may take some trouble, and yet make no great profit; but I do not conceive, that profit on the hogs can be his view. If he gets the market price for his pease, barley, beans, buck-wheat, &c. and saves carriage upon them, at the same time getting a fair price for his swine lean; he certainly makes a considerable profit upon the whole transaction, though not an immediate one, as the mere fattener of hogs: but, what is of much greater consequence, is the raising of rich and most valuable manure, much better than can be gained by any other

other means at home ; for hog dung far exceeds that of any other cattle. Upon these general principles, which I apprehend are so just, that nobody can contradict them on experience, it is not only expedient to fat the hogs bred on the farm, but also to purchase others lean, as many as are necessary for the consumption of the pease, beans, barley, and buck-wheat of a farm. I speak of small farms and middling ones ; not very large ones on a barley soil, where that grain is the principal crop. And further, carrots and potatoes are roots that will fat a hog nearly as well as any grain, and at the same time to vastly greater profit than any corn or pulse ; for the product of them is so very considerable, that one acre of land, so applied, will go further in fattening swine, than many acres of the best grain. Let therefore the industrious husbandman every year plant a field of potatoes or carrots for fattening hogs, which will do

it to great profit, merely on the swine, but much more so consequentially in dung.

SHEEP.

OCTOBER is a proper time for buying in wethers in pretty tolerable order for fattening on turnips and cabbages, which is a very profitable application of the crops. If the land is very dry, it will be adviseable to herdle off parts of the field, and give them to the sheep successively; but, if the soil is at all wet, they must be given on a dry grass field. In either way, you work a very great improvement of the land, either of the field in which they grow, or of the grass one, in which you feed them. Keep these wethers fattening until *April* or *May*, when mutton sells better than at any other time. This cannot
be

be done on turnips ; but on cabbages it is every day practised.

MANURE GRASS.

THIS, as well as the preceding month, is an excellent season for spreading manure on grass lands, nor should it be deferred later. In some counties, it is an article in the generality of leases, that all the dung of a farm shall be spread on the grass ; but such covenants are totally contrary to the spirit of good husbandry. In the same idea is the obliging the farmers to lay a certain number of chaldrons of lime *per* acre on their arable land, to serve in lieu of dung. I will venture to assert, that all this is most execrable management, that it is a remnant of the same barbarism as making horses draw by their tails. Lime, according to the best chemists, is no manure, but a mere forcer : where it

meets with fertility to work upon, it forces the land to yield it for the nourishment of plants; but, where little such nourishment is to be found, it is mischievous, as it forces the soil beyond its powers, and leaves it a *caput mortuum*, until enlivened again with dung, or enriched by other means. Hence the propriety of liming such lands, whose nature or management prevent the exhausting them of their fertility; but those, which can easily be hurt by improper management, should never be limed.

The above-mentioned covenants, therefore, are diametrically opposite to common sense; obliging the farmers to dung their grass, and lime their arable, is a conduct that tends to the utter ruin of the latter; for arable land is easily exhausted with the best management. What therefore must it be with constant forcing by lime, and no dung? This system can only have arisen from ignorance

rance of the qualities of lime. It is called a *manure*: these landlords have consulted the name alone, and ranked it with dung; whereas there cannot be two substances more unlike. Laying lime on grass land is very allowable, and a proper manure; for old turf is always rich: the surface of roots is like a dung-hill, and it is generally acquiring riches; but, with all advantages of this kind, yet, in many pastures, the burthen of hay is by no means in proportion. Now lime being a forcer, and a dissolver of vegetable substances, it forces the surface of the soil to yield the crop more nourishment, and, by dissolving the old decayed roots, convert them into a manure. Let these effects, however, be as great as they may, still it is out of the power of the tenant to exhaust the land: he can only cut off or eat off the growth; nor will it ever be in his power, though no dung be ever laid on it, nor any cattle ever fed in it, to prevent

vent the soil being in the constant acquisition of fertility; for that is the nature of a thick turf. Those who talk of hurting meadows by chalking and liming, speak against all principles. It is ever prudent to let the tenant do what he pleases with all his manures: he certainly must be the better judge, which field wants it most, and which will pay best for it. Obliging him to lay lime on his grass lands would not be objectionable; and as a tie, and the only one worth a farthing, state his course of crops. Lay a heavy penalty on two crops of white corn coming together; make him hoe all turnips, beans, pease, &c. The following courses exclude a fallow, and yet will always keep the land in good order: they suit both light and heavy lands.

1. Turnips.
2. Barley.
3. Clover.
4. Wheat.

And,

1. Cabbages.
2. Oats.
3. Clover.
4. Wheat.

Let it not be imagined, that I am urging any thing against the general manuring of grass lands; on the contrary I am sensible, that it is most excellent management; but let not all the dung be so applied: form composts of turf, ditch earth, marle, chalk, lime, and some dung: spread ashes, foot, and malt dust. Such manures are proper for grass, and will pay well.

DIG UP CARROTS.

IN this month the carrot crop should be dug up: some persons leave it till *November*; but, in case of wet weather, they suffer much by the delay. They

I

may

may be taken up either with three-pronged forks or with spades, if the land is not hard, which it will not be, if the crop has been well cultivated: a little loosening of the earth with the tool, and at the same time drawing up the carrot by the top, will take them up very quickly. They should be left spread over the field till dry, which will be in a day or two: then thrown into heaps and carted home; which moving will clear the dirt from them. Unload them in a barn or some out-house, and let the tops be chopped off, and given to the swine: then lay the roots where they are to remain. Some pile them up in a heap, and cover them with dry sand, others cover them with straw: they will keep very well, if packed close together in any building; and, if it be only a boarded one, cover them with something, enough to keep out the frost. Respecting the application of the crop, you must allow some for your horses,
to

to keep them in good health, in which they are very efficacious. It is commonly said, that carrots will only give them fine skins; but that is a mere symptom of good health. Swine will pay you best for them: you may completely fat your hogs on them, and none will do better, look better, or eat better. Sows that have pigs may be kept on them; for they breed much milk. It appears also, by many experiments published by the Society for the Encouragement of Arts, Manufactures, and Commerce, that young pigs may be weaned on them alone, without the assistance of milk. Oxen will fat to admiration on them; cows eat them greedily, and they give no ill taste to the milk, cream, or butter. Their use, in short, is universal: you can cultivate no plant that will answer more purposes.

PLOUGH UP POTATOES.

THERE is not the same reason for digging up this crop as for carrots: the plough among the latter is apt to cut, break, and bury them; but not so with potatoes: for it turns them over, damaging scarcely any; and, though some will certainly be buried the first ploughing, yet a harrowing will uncover many of them, and a following ploughing most that remain: so that another harrowing will leave not one in a thousand covered; and the great advantage of this method is the tillage, which thus takes up the crop, preparing the land excellently for wheat, to be harrowed in directly, or for barley in the spring: if the latter, let the last ploughing throw the land on to the small ridge, to remain dry during the winter. If your potatoes are not for immediate sale, they must be laid

laid up in a place secure from frost, which they are more liable to damage from than carrots. You will find it extremely profitable to apply them to winter-feeding various sorts of cattle, particularly hogs: they will fatten on them: sows with pigs, and weaned pigs, also the common stock swine; all will thrive on them to very great profit.

LAY UP THE FALLOWS.

THIS month must conclude the autumnal tillage on all stiff or moist lands; for, in the following month, they will probably be too wet: but on very light sandy soils, ploughing goes on all winter. Now you should finish throwing the summer fallows, designed for barley, on to the ridge, to lie dry during the winter: the stubbles for a fallow next year, and those for turnips or cabbages, and the lands designed

336 THE FARMER'S

designed for all sorts of spring corn and pulse, should now be compleated. Lay it down as an invariable rule, never to have a piece of stubble unploughed in *November*. It is of very great importance to leave your land for winter in such a manner, as the frosts will best get into it; which certainly is on the narrow ridge, a greater surface being so exposed; and the new-ploughed ground will admit the influence of the air, of whatever kind, much better than hard-bound stubble lands: and, by the frost pulverizing the land, it is in so much the better order, either for the crops designed, or for a fallow.

MAZAGAN BEANS.

THIS is the proper season for sowing *Mazagan* beans; and let it always be remembered, that the drill culture, for all sorts of beans, is far preferable to the

the broad-cast. Plough your land on to the four-feet ridge, and then drill each ridge with a double row, one foot afunder, or a treble row, at eight inches, and leave the land well water-furrowed. The land should have been ploughed in *September* on to the ridge, and at drilling arched up, so that the beans may grow on the crown of the ridges; by which means they are sure of being dry, and of having a good depth of mould to shoot into, which is a matter of great consequence to a vegetable that has such powerful roots as the bean. As this is the season of arranging the lands for the autumn beans, and also for those sown in the spring, it will not be improper to recommend to all farmers the bean culture; for crops, drilled and horse-hoed enough to keep the land perfectly clean, are fully equal to a summer fallow, either for barley or clover.

PLOUGH FOR CARROTS.

IN *October* the land must receive the first ploughing, that is designed for carrots in the spring. Fix on the lighter soils of your farm; but, if you are in general on a light sand, chuse the stiffer fields: for larger crops will be gained from a light loam, than from very light sands. Plough as deep as the land will admit, and do not fear of bringing up earth that never saw the sun before, provided it be not of a clung, stiff, clayey nature: the deeper you go in soil that will crumble, the better; for, as the carrot is all tap-root, it stands to reason, that it must require a very deep tillage. In this ploughing, it is of great importance to possess a good plough, well made for the purpose of turning up the earth to a great depth. The farmers, where carrots
are

are cultivated, use only their common plough; but go twice in a furrow; but this gains not near the depth that is really requisite, which is from eighteen inches to two feet: the best way would be to make a plough on purpose. The Society at *London* have one in their Repository for Agriculture, which cuts to any depth, with a number of horses proportioned to the depth and stiffness of the land: but the misfortune attending the public is, that such ploughs, and other machines, are of little general use, unless every man that pleases can have them executed for himself. With a proper plough, four horses twice in a furrow, or six once, will stir the land deep enough for the purpose. As soon as the ploughing is finished, water-furrow the land thoroughly, so that it may lie as dry as possible all winter, and be ready to stir the sooner in the following spring.

Let the spirited farmer apply much of his land to the culture of carrots; for he will find no article half so profitable in his whole farm, as this well conducted. Few men will bestow attention or expence enough to cultivate this plant on a large scale, notwithstanding the undoubted profit attending it. A spirited farmer, that has money in his pocket, will introduce carrots instead of turnips, in his course, through his whole farm. He should, when his soil is proper, totally substitute them in the room of turnips; for it is no exaggeration to say, that one full crop of carrots will pay better than ten of turnips. It is much to be regretted, that better ideas are not more common, of the great profit of certain crops in husbandry, which, in a few hands, yield immense advantage, and would do the same in all, if equal attention was given.

PLOUGH AND DIG FOR
MADDER.

THIS is also the right time to give the first stirring to the land designed for madder. Let me in one word observe, that it requires exactly the ploughing of carrots, described in the preceding article; but the soil may be stiffer than will do for carrots. Heavy, stiff loams, that in common conversation are called clays, will, with a proper quantity of dung, do exceedingly well for madder. The article of manuring is the soul of this culture; the plant delights to grow in a dunghill, so that you need not fear over-doing it: perhaps one hundred loads an acre, of black rotten dung, may be found the proper quantity for the first crop of madder; but then you should determine to plant several crops

on the same land successively. Let the dung, the more the better, be spread on the land before the deep ploughing, and turned in by it.

But a culture much superior to that of ploughing, is digging for madder. It should be considered, that the only valuable part of this plant is the root, and that spreads exactly in proportion to the pulverization and fertility of the soil: hence the necessity of deep tillage, and the land being as rich as possible to the bottom. Indeed, as madder does not, like some other plants, run down in a single tap-root, but spreads a vast number of horizontal ones, the depth need not be extravagant: three feet, I should apprehend sufficient; and then the proper management would be, to dig up the crop, as well as prepare the land by the spade, and plant the same again on a fresh dunging; by which means one digging would do, both for the
the

the old crop and the new. Upon the first turning it up three feet deep, it will be absolutely necessary to mix in with it from fifty to an hundred loads of rotten farm-yard dung, a year and half old, that has been twice or thrice turned over. This will enrich and mellow it in a surprising manner, and prepare it for planting in the spring, with the greatest advantage.

DIGGING FOR LICQUORICE.

THE best culture for this root, and which is common in some parts of the kingdom, is to dig for it in the manner recommended in the preceding article; but four or five feet deep, instead of three. This plant sends down only one tap-root, like the carrot; consequently the great profit of it is the length of the root, which is exactly

proportioned to the depth of the tillage. In this husbandry also, as well as that of madder, the same land is preferable for successive crops, as one digging serves both for the old crop and the new. For licquorice also you must manure very richly: it will not answer well without this attention. Leave the land well water-furrowed for the spring.

NOVEMBER.

NOVEMBER.

FARM YARD.

THIS month you begin to experience the conduct of the farm yard, on the principles already laid down. Observe now to keep all your cattle confined: let none of them wander about the fields, where they can get nothing to eat; but, if it proves wet weather, will do much mischief by poaching. Litter all the yards completely from your stacks of straw, stubble, or fern: so that, be the season ever so wet, the cattle may not tread into the layer

layer at bottom of marle or earth, nor ever lie wet. As fast as the litter is trodden into dung, or becomes quite wet, cut fresh slices down from your stacks, and spread it about. Have an eye to the horse-keepers, that they use plenty of litter; also that your fatting-stalls, cow-houses, ox-houses, hog-sties, &c. be all kept quite clean littered; for this is the best and cheapest way of raising manure.

THRASHING.

AS soon as the cattle are taken into the yards, the thrashers must be set to work, to supply the lean beasts with straw, and they must be kept close and regularly to it; and you should observe well, that your stock of cattle be proportioned to the quantity of your straw, that they may be carried through the
winter

winter on it; consequently the number of thrashers must be appointed upon the same plan; but this exactness is not requisite, if you are so situated as to have a command of straw at all times, when you want to buy it.

F E N C E S.

THIS is the first month for hedging and ditching: *October* is too soon. After you have once brought your fences into good order, which should always be effected within the three first years of a lease, the best way is, to divide the length of hedging into twelve parts, and to make it a rule to do one twelfth every year afterwards; by which means the whole will always be kept in good order. The best method is the plashing, in which so much of the hedge is made of live wood, that it holds up and lasts

far longer than hedges made all of dead wood, which is the practice of some countries; but they are rotten, broken down, and gone, before the quick wood gets up to form a fence; whereas, in the plashing method, by leaving as many hedge-stakes alive as possible, and by laying down much growing wood, the fence is constantly impenetrable.

The article of hedging and ditching is too much slighted by most farmers, who do no more than they are bound to by their leases, and, were it not for that tie, would do none; but the utility, and even profit (if avoiding loss may be called profit) of having all the fences in such good order, as to be depended on for securing the crops, is very great. There is not a more troublesome, and in many cases a more expensive conduct, than suffering cattle, for want of good fences, to break into one's own, or others crops of corn, hay, turnips, &c. The farmer,
who

who is not secure of his fences, never knows where to find his cattle. Let therefore the industrious husbandman, who would carry on his business with any commendable spirit, take good care to allot money enough to this object, when he hires his farm, that he may be able to get his fences into good order within the three first years of his lease: and, in this work, let him dig deep and wide ditches, which add prodigiously to the strength of the hedge. However well the hedges of a farm may be made, still they are easily passed and damaged, if not defended by a ditch. Another great use of them is to serve as main drains about a farm: they cut through the springs, and are so many courses for all external water, draining land greatly, if there are no hollow drains made; but, if such are executed, then the ditches are of excellent use to direct them into, that the water may be carried clean

off the farm, without the expence of making large drains on purpose.

BORDERS.

THE borders in many counties, where the inclosures are small, take up a tenth or a twelfth part of whole arable farms; but, in all inclosed countries, they occupy a great space. It is highly expedient, that such land, as it cannot possibly be applied to near the profit of the fields themselves, be reduced as much as possible; that is, be no wider than requisite for a horse to turn at the end of the furrow in ploughing; but in many farms this is no rule, and borders, overrun with rubbish, such as thorns, brambles, thistles, and other trumpery, spread into the fields, to a width that usurps a vast quantity of land, that ought to be appropriated to more profitable purposes.

All

All such rubbish, when the hedge and ditch are first repaired, should be grubbed up root and branch, and all the earth, which is generally very high and irregular from old head-lands, and the cleanings of the ditch, dug as many spits deep as necessary to lay the whole border on a slope from the land, so that the water from water-furrows may every where have a fall to go off, either into the ditch, if on that side, or quite to the bank of the hedge, if on the other. The earth thus dug up should be laid into a high ridge, ready for carting; and the best use that can be made of it is to carry it into the farm yard, at the proper season, to form the layer before recommended; but, if the distance is too great for this use, then it is a good way to mix it up with lime, and spread it on the nearest grass field. Lime certainly has a great use in mixtures of this sort; for it dissolves all the numerous little
roots

roots and fibrés, of which this earth is full, and prepares them for becoming manure. It also takes off that sowernefs, which is found in fresh earth of any depth. It likewise pulverizes, in a surprising manner. If enough of it is laid with such earth as this, it will unite with every particle of it, and raise such a fermentation, that the whole mass shall be found like running sand, and in fine order for spreading even on grass land, where it will be very beneficial. By this piece of good husbandry, you effect several excellent purposes: you gain much land formerly waste; you drain the fields; and also manure them. The whole is a system of neatness and profit, and such as no good farmer should ever omit.

FOLDING.

IN case this month proves wet, you must leave off folding the arable lands, and begin with the dry grafs fields. The farmers in general stop about this time for the whole winter; but that is very bad management: their idea, that winter folding is of but little use, is totally a mistake, as the easiest experiments every day to be made will fully evince. Winter is the proper season for manuring grafs lands, which you could not fold in summer, had you ever so many sheep, nor does winter folding, on very dry grafs land, do any harm to the sheep, as many gentlemen with very fine flocks have fully experienced. The benefit to the land is so great, that it is surprising more common farmers do not practise it: the moss, that great enemy to natural

A a

pastures;

354 THE FARMER'S

pastures, is completely destroyed by it, and such a luxuriance of grass succeeds, that the most ample manuring, by any other way, will not equal. You may manure mossy ground often, before you destroy it; but the treading of the sheep, at the same time that the dung and urine are dropt, completely destroys it; and this manuring is more adapted to turf, than any dung to be spread on the surface, which is always troublesome to get in.

THE TEAMS.

THIS is an idle month for the teams in many farms; but should not be with good husbandmen: for, as I have often remarked, they must be constantly well fed, and employed, or loss will be the consequence. There are many works that may be executed in this month:

on

on light dry foils, the marle, chalk, or clay carts should not stop: they may work from the first day till the last. In wetter foils, you may cart any sort of manure on to grafs lands, provided you use small carts with nine-inch wheels; the great utility of which is the opportunity of carting on grafs land through all the winter, without poaching.

And, in case of no work of this sort, then the teams should be constantly employed in bringing purchased manure from the nearest towns; which work will receive no interruption from the carrying out of products, as manure may be brought back, instead of coming home empty. All sorts should be purchased that can, such as horse-dung, cow-dung, hog-dung, pigeons and poultry dung, coal-ashes, foot, malt-duft, lime, curriers shavings, tanners bark, hair, and lime, &c. &c. and whatever others can be had: all should be thrown into one heap,

and mixed together, before they are spread on the land. This husbandry will pay a farmer extremely well; but it is too much neglected by most of them.

DRAINING.

IN this month you may begin the work of hollow draining, which, on wet lands, is the *sine qua non* of husbandry. It is in vain to think of farming them to any profit, without this improvement. Manuring, before this is done, is but expending money for five *per cent.* advantage, where fifty ought to be the return. Lay your land dry before you attempt other improvements: the first step is cutting deep and large ditches around the wet fields; then you gain a requisite fall to take the water clean away from the drains. It is highly necessary, if your soil is such as to allow it, to cut the

the small drains with a draining plough, of which two or three are invented, and now easily to be had. The difference in the expence between ploughing and digging them is very great: they may be ploughed for a fifth of the cost. If you have any quantity of land to drain, it is therefore very adviseable to provide one of these ploughs. If the soil is very wet, it will be necessary to cut the drains pretty near each other; for instance, about a perch, a perch and a half, or two perches asunder: by which means it will be laid in most dry and wholesome order. Fill them with whatever materials you can get the easiest, bush faggots, stones, bricks, &c. &c. No improvement in agriculture is greater than what is effected by these drains, nor any that will sooner repay the expences. In many parts it is well known, that the first arable crop will repay the whole expence, which is a profit not to be reaped in any other article, to which a man can attend.

WOODS.

NOW begins the business of wood-cutting. In some parts of the kingdom, this is a profitable part of husbandry; but, in many others, it pays very indifferent returns. If there is a long carriage on the wood, it answers rarely well enough to induce a good spirited farmer to apply his attention and money to it: arable and grass land will pay better; and supposing one hundred or two hundred pounds, or more, of his stock, applied to hiring the wood, he may in general be assured, that the same sum, thrown into his farm in an increase of improvement by draining or manuring, (not in hiring more land) will pay him better interest. But, if it is expedient to keep woods, it is much worth attention to apply it to the best use. Old experienced

experienced farmers are always attentive enough in this ; but young ones, and gentlemen just beginning their husbandry, are apt to be too careless. Labourers will ever persuade them to what pays themselves in doing best. Hop-poles, hoop stuff, herdles, short faggots, long ones, bushes, stakes, and edders : each of these articles is, in some places, more profitable than any of the rest ; and I believe, on an average, those will be found most beneficial, for which the purchasers come and take them away. Carriage on so cheap and bulky a commodity as wood, is a very great deduction from the product.

WATER MEADOWS.

IN this month you may begin to water your meadows and pastures, wherever it can be done ; and be assured, that

no improvement will pay better: a winter's watering will answer in the hay, fully equal to a common manuring of the best stuff you can lay on the land; and the expence, in some situations, is nothing, in others very trifling. The lower parts of a farm are generally in grass; the farmer should attend to his ditches, so that the water, from all the higher parts of the farm, may have an unobstructed course to a ditch a little above the bottom, from which it may be let at pleasure over the meadows, observing that it only runs over them, and does not stagnate. All this is in numerous farms to be effected with very little trouble or expence, and yet thousands of farmers never take any heed of such advantages; but, on the contrary, many of them are at an expence to deepen ditches, merely to carry away the water, and prevent its floating any of the grass. Such ideas are all the result of the antipathy,

pathy, which the common farmers have to experiments: they hate to try the effect of any thing out of the common road; would much rather be at an extraordinary expence, in pursuing the beaten path, than jog an inch out of their way, though to save hundreds.

BURNET.

IT is a common error with the cultivators of burnet, to let cattle go into the fields at this time of the year; but it is bad management, and totally contrary to the nature of the plant. Keep it throughout autumn and winter from any cattle: it will then be ready in the spring, when most wanted for your sheep.

WALLING.

IN the dry stoney countries, walls are the common fence, and, when well made, are impenetrable, and extremely durable. This is the proper season to begin building them: they are made of whatever stone is most plentiful; either lime-stone, which is generally in quarries, rag-stone, grit-stone, or whin-stone. The best are lime and grit; because generally most plentiful, and at the same time much the easiest cut: but whin-stone cannot be used to profit for this or any other work, as it is so hard, that it will not cut without difficulty. Grit-stone is of no use for any thing but building, for it will not burn to lime, consequently it is a nuisance: hence the peculiar happiness of such tracts in the circumstance of those stones, which are of prejudice on the

2

land,

land, being convertible, not only into fences, but also houses, barns, and all other offices. If the stones are very unequal in size, and not easily cut, it will be necessary to build the walls wider at bottom than at top, gradually diminishing, till it comes to a mere edge; but grit-stone cuts with so much ease, that you may build walls of it, without mortar, as true as with, and will, if well laid, last as long. In the inclosure of wastes, it is proper, by all means, to begin the walling in this month, which is so soon after the hiring time, *Michaelmas*, and continue the work all winter. In all countries, where walls are the common fence, there is a fixed price *per* perch for the whole work. In these undertakings, it is always proper to proportion the size of the inclosures to the stoneyness of the land; for, when the stones are pretty thick on the surface, they must all be removed before it can
be

be cultivated. The building should be fixed in the most stoney part, near the center of the new inclosures, and, the walling being traced through those parts that are most stoney, the whole land may be quite cleared of these enemies, and all be applied to a most convenient use.

But it should here be observed, that the generality of wall inclosures are very deficient in one circumstance, pardonable in the undertakings of a farmer, but not to be excused in those of a gentleman: it is the trusting solely to walls, and never planting white thorns. The wall should never be esteemed as any thing but a temporary fence, not from a want of durability, but shelter. Walled inclosures are generally made in high, open, bleak situations, where shelter is as much wanted as inclosure: walls shelter very poorly, the wind either driving through them, or reverberating
and

and cutting the cattle with a borrowed keenness. Hence let the inclosers of wastes determine on the small extra expence of planting quick-hedges against all their walls, that hereafter the fields may be more protected from the cold winds, than they can be by means of walls alone. But, if it does not suit them to follow this plan with all the subdivisions, at least let them double wall the outside fence, and, leaving a space a few perches wide between, plant it thick with whatever trees suit the soil best. Spruce firs are in general to be preferred in bleak situations; because they yield a better defence against the wind than most other sorts.

DIG MANURES.

ALL this month the carts should be employed in carrying marle, chalk, clay,

or ditch earth, upon soils that are light enough to admit carting on through winter. On large farms in sandy countries, that are hired with a view to such improvements, it is a very favourable circumstance, that you are not obliged to stop such works, because of winter; but, in richer soils, proper management will remedy this evil. The manure should be laid on old clover-lays left on purpose, and small three-wheeled carts used, with nine-inch wheels; by which means you may, without cutting or poaching, cart all winter.

CUT ANT-HILLS.

THIS is the proper season for destroying ant-hills. Many ploughs have been invented for cutting them off level with the surface of the field, ready to be carted away; and, if that is the way

way you take with them, such machines are of great use; for they will certainly do the work of many men: but I think the common method used by the farmers in general is preferable: the men open the ant-hill with three cuts of a sharp spade, skinning the turf, so as to lay the heart bare: they then with another stroke cut out the heart in a round, or rather triangular form, leaving the bottom of the hole, from whence it came, lower than the field. In this manner, they leave it for a month or so, that the rains may collect, and kill all the ants; after that, they turn down the grass turf, which they had skinned off: the heart of the hill, and the pasture, are left as level as ever, without destroying any grass: the lumps of earth that come out must be carted away. This work is done very expeditiously: where by the great, it costs only from four pence to six-pence *per* hundred; at which trifling expence,

expendence, you get rid of a great evil, and gain in return ten times as much. Many fields are every day to be seen, so overrun with these hills, that they cannot be mown, how well soever it would answer; and yet the slovenly occupiers have not either sense, money, or spirit enough, to cut them up, though so easily done. But let the farmer, who would carry on his business in such a manner, as to render every part of it profitable, and who should always have money enough to execute what they know to be right, conduct himself on other rules, and not take the adage for his guide, *A penny saved is a penny got*; which stupid maxim would send him presently to jail. The pence saved in the omission of draining, of manuring, of water-furrowing, of folding sheep, &c. &c. are all *pence gotten*; and we often see them so saved: but those, who think they are therefore economists, are wretchedly

edly mistaken. The works of a spirited and correct agriculture should never stand still for want of money, which they never would do, if farmers were beaten out of the unprofitable practice of hiring more land than they can effectually manage. Wanting money in husbandry is just as ruinous as in commerce: a merchant would make a fine figure, that had an advantageous opening for exporting a profitable cargo, but lost it, because he could afford neither a ship of his own, nor to freight one of his neighbour; or whose ships lay in port, because he could not afford to pay the sailors wages; or whose books were kept irregularly to save the expence of a clerk: and yet, as extravagant as all this may seem, it is not a whit more preposterous than letting the teams on a farm stand idle in a stable, because the farmer cannot afford to buy dung for them to bring;—than ploughing, sowing,

B b

and

and harrowing wet land, because he cannot afford to drain it;—than feeding pastures that ought to be mown, to save the expence of cutting ant-hills;—than suffering a constant loss in damaged crops, because of the expence of putting the fences into repair. All these articles are instances every day to be met with among farmers, that might, and would act otherwise had they *less* land; for then they would of course have *more* money. It is highly necessary to attend well to this matter in the hiring of farms; for if more land is taken than the sum of money in a man's possession will allow, he cannot possibly conduct himself by those rules, which he thinks or knows to be right: he cannot even cut his ant-hills for want of money, without some other work of the same class being neglected.

MADDER.

LOOK well to the land deep ploughed in the preceding month for madder, to observe if it lays perfectly dry: if the water hangs at all in the furrows, or the water-furrows, let them be immediately cleansed, so as to run off without the least obstruction; for it is very pernicious to any land to be soaking in stagnant water; instead of receiving benefit by autumnal tillage, it is much injured.

PEASE.

UPON dry soils; that plough well in winter, this is a good time to sow the hardy hog-pea, which will remain uninjured by frosts, and be much earlier in the following year, than those sown

in the spring. Sow about four or five bushels an acre on the ground, and plough them in, leaving the land without any harrowing; but water-furrow it, unless it be quite a dry sand. Upon such soils, this will be a profitable employment for your teams in this idle month.

FELL TIMBER.

I do not introduce this article in its general stile, relative to landlords, timber merchants, and carpenters; but only as it concerns farmers. Upon many farms, in several parts of the kingdom, it is the custom to covenant in the leases, that the tenants shall have what is called *plough* and *cart-boot*, which is an allowance of all the timber requisite for *keeping up* his stock of ploughs, harrows, rollers, carts, wag-
gons,

gons, &c. He is to come on to his farm full stocked, and his implements in good order; after which the allowance extends to keeping them in good repair, and to renew them when worn out. This covenant was once much more general than it is at present, owing, I apprehend, to the greater plenty of wood; but, now that it is much scarcer, it is wearing out of use. On those farms, that yet possess this right, let the tenant fell his elm and ash before *Christmas*: the latter end of this month is as good a time as any; and let him provide a timber-yard for it, with a saw-pit, and other conveniencies for the carpenter and wheel-wright to come and work at. It is right to avoid sending the timber to the carpenter's or wheel-wright's to be cut out, to avoid giving the landlord any cause of suspicion, as he may be apt enough to think that part of his timber will be sold. When of a proper

age, it must be cut into all the parts of ploughs, harrows, rollers, carts, and waggons, to be ready for reparations; so that plenty of pieces, cut into the proper shapes of each part, may always be ready to work up as wanted. Without this previous attention of keeping the wood long enough, and in plenty of all sorts cut out, the right of plough and cart-boot will turn out but an insignificant matter.

SHEEP,

THE lean stock sheep will yet be kept in the remains of the summer-grass, and on the sheep-walks; but the fat stock must now be at turnips or cabbages. Remember that fattening cattle, of whatever sort, should have as much meat as they like; but should, at the same time, be prevented from making

any waste. Giving fat sheep the turnips or cabbages is a dubious point; many farmers urging strenuously the necessity of saving carriage, by letting the sheep feed them off where they grow, provided the land is dry enough; but others, seeing the waste they make, are of a contrary opinion, and carry the turnips to a grass field, where they give them the sheep as they require, and without near so much waste as is made in the other case. Upon these systems I shall remark, that, if the land is sand, or as dry as sand, you may manage to feed off without waste; because the soil is so clean, that there is no soiling by dirt or poaching; and, by bringing a stock of lean sheep to eat up the leavings of the fat ones, there will not be the least waste made: but this point of lean stock following the fat ones is too much neglected by many farmers, who only run over their fat sheep, and conse-

quently spoil a large proportion of their crops. The management of sheep fattening on turnips is reckoned, by several farmers, a nice part of husbandry: it is always a matter of consequence to fat cattle, of whatever sort, as fast as possible; and an expence, something beyond the common amount, is well bestowed, if it accelerates the fattening of the beast: thus it is good management, in many farmers, to have a sheep-rack filled with hay always in the turnip field, that is fed by fattening sheep: others give them bran or barley meal, or pollard or grains, or malt-dust, in troughs; the dryness of all which, except the grains, are an excellent opposite to the moisture of the turnips, and will contribute well to the more speedy fattening of them. I do not, however, mention these assistants as being absolutely necessary; because I know that thousands of sheep are fatted on turnips, without

without any such help. Another article of dry food, which agrees excellently with turnips, is chaff; and if that of the crops be not sufficient, cut it with a box of straw and hay: this makes very good dry meat for sheep that are fattened on turnips or cabbages.

In the winter fatting of sheep, it is worth observation, that the proper time to sell is *April* and *May*; because then mutton sells at least an halfpenny a pound dearer than at any other season. The farmer therefore, who would winter fat to the greatest advantage, must have some food in plenty to come in, when his turnips are gone; for he cannot keep them longer than the end of *March*, to profit: spring corn, sown after turnips that are kept far into *April*, suffers much from late sowing; and as the turnips, even from the beginning of *March*, sprout out very fast, the roots grow hard and flocky, so that fat sheep will

will eat them but with difficulty. Hence results one of the strong motives for cultivating cabbages, which are in full perfection when turnips are rotten and gone. The great *Scotch* cabbage, and the turnip-cabbage, also the cabbage-turnip, are the sorts principally recommended for this purpose; because they stand the severest frosts without damage, and the quantity they produce *per acre*, especially the *Scotch* cabbage, and the cabbage-turnip, is so great, that no crops of turnips equal them. By means of these plants, you keep your fatting sheep to plenty of food, of the best kind, quite through the spring to the middle of *May*, and sell them at a time, when few other farmers have any thing for their stock, but the young grass of their meadows and pastures, which they feed to the irreparable damage of their hay crops. This is perhaps the most peculiar use, to which cabbages are applicable:

applicable: no other root or vegetable rivals them in this particular, if quantity of produce be considered, as well as the season of feeding it. Upon light rich lands, well managed, clover and ray-grass will yield a good bite by the middle of *April*; but then the farmer must be particularly attentive to have several fields to succeed each other, as the quantity of food on an acre of ray-grass, so early as the middle of *April*, is no great matter: manage how you will, you will not get any five acres of grass to equal one of cabbages at this pinching season. If the farmer was particularly desirous of excelling in this branch of husbandry, I should recommend to plant *Scotch* cabbages (from the accounts we have of them) to succeed turnips, by the middle or latter end of *March*, to take the fat sheep for three weeks, and have a crop of turnip-cabbages to last them from thence till the

the middle of *May*. By this conduct, he will never want food for his fat sheep quite through the spring, without damaging his meadows and pastures, according to the present bad custom of so many farmers.

And, in the culture of these plants, let the man, who would act in the best manner for profit, attend well to giving them fair play. Let him not, except on very rich land, omit manuring amply, that he may command large crops, which is of peculiar importance in this case, not only in the value of the crop itself, but also in that which succeeds; for, if the cabbages are kept eating till the middle of *May*, much of the spring corn, that follows them, cannot be sown till *May*, which is so untoward a circumstance, that as great crops of the sheep-food should be gained as possible, to contract the space of land so occupied: every pound weight gained
per

per cabbage is a fure gain in the barley that follows, as well from earlier sowing, as from the encrease of dung from the sheep. Those, who have experienced the evils of late sowing, will think this a matter of importance.

DECEMBER.

DECEMBER.

THRASHING.

THE thrashers must be kept constantly at work throughout this month, that the cattle feeding on straw may have a regular supply. Many farmers, who keep large stocks of lean or dry cattle, are attentive to thrashing out their worst straw first, and the best last, proceeding upon the same gradation through the winter, that every change of straw may be for the better. This is a very just conduct, and cannot possibly fail of having good effects on
the

the cattle, who, it is well known, often fall away in their looks on a change of straw that is the least for the worse. The wheat should, upon these principles, be thrashed first, as that makes the worst fodder; next the oats, then the barley, and lastly the barley or oats that had much clover mown with them; for, in wet seasons, the clover rises so high, that the straw is almost as good as hay. There is but little trouble in attending at harvest, to lay the corn so as you may begin with what you please, and the advantages to the straw-fed cattle certainly are very great.

The thrashers should always be chosen from the labourers with some care: they should be honest, or the farmer will suffer much, if he does not watch them narrowly: they have many opportunities of stealing corn, hiding it among the straw, or in some secret hole about the barns, and coming in the night

night to bring it away. Wheat is the same as money to them, and will tempt them more than any thing else. Some of them also, it is said, have coats with large pockets on purpose to convey the wheat away by half pecks at a time. Another circumstance, of a different kind, is that of thrashing the straw clean: this requires a very sharp attention; for they are extremely apt to beat out only the prime of the ears, those grains that come out with a stroke or two, and to leave the rest, which require more labour, in the straw. This is as common an evil as any in labour, and should be prevented by an assiduous attendance on the yard, to examine the straw. As you walk about the yard, observe the pigs and the poultry: if the straw is not clean thrashed, you will see them extraordinarily busy at places, eating the grain very greedily: step up to such spots, and examine the straw:
you

you will there probably find much more wheat left in it, than is by any means allowable. This species of cheating, the farmer may be assured, goes on at a fine rate when he is absent, unless he has a bailiff to leave behind him, that is in authority over the men; and, in a large farm, this matter, seemingly unimportant, will run away with a considerable part of his year's profit.

The whole business of thrashing is open to numerous objections and inconveniencies, and it is, at the same time, very laborious and unhealthy to the men: for which reasons, it is much to be regretted, that a greater progress is not made in the invention of a machine for executing the work. The Society at *London* have a model of a windmill for that purpose, which has been executed in large, once by the inventor; but the whole expence of it amounts from five to seven hundred

C c pounds;

night to bring it away. Wheat is the same as money to them, and will tempt them more than any thing else. Some of them also, it is said, have coats with large pockets on purpose to convey the wheat away by half pecks at a time. Another circumstance, of a different kind, is that of thrashing the straw clean: this requires a very sharp attention; for they are extremely apt to beat out only the prime of the ears, those grains that come out with a stroke or two, and to leave the rest, which require more labour, in the straw. This is as common an evil as any in labour, and should be prevented by an assiduous attendance on the yard, to examine the straw. As you walk about the yard, observe the pigs and the poultry: if the straw is not clean thrashed, you will see them extraordinarily busy at places, eating the grain very greedily: step up to such spots, and examine the straw:

you

you will there probably find much more wheat left in it, than is by any means allowable. This species of cheating, the farmer may be assured, goes on at a fine rate when he is absent, unless he has a bailiff to leave behind him, that is in authority over the men; and, in a large farm, this matter, seemingly unimportant, will run away with a considerable part of his year's profit.

The whole business of thrashing is open to numerous objections and inconveniences, and it is, at the same time, very laborious and unhealthy to the men: for which reasons, it is much to be regretted, that a greater progress is not made in the invention of a machine for executing the work. The Society at *London* have a model of a windmill for that purpose, which has been executed in large, once by the inventor; but the whole expence of it amounts from five to seven hundred

C c

pounds,

pounds, which is so great a sum, that one may reasonably suppose it will never prove of any extensive utility. Hence it is much to be wished, that so patriotic a society would continue their attention to this point, in order to gain a machine, that would execute the same effects, and be raised at a much less expence. It would be one of the most beneficial purposes that they could ever attempt; and there can be no doubt, but many very ingenious men exist, who could easily contrive a machine of this nature, that would not be so enormously expensive.

FARM YARD.

ATTEND, without ceasing, to the littering of the yards, stalls, stables, cow-houses, hog-sties, &c. If you do not have a sharp eye to the men, they

they will, to save trouble, be sparing of the quantity; whereas the profit is so great on treading fern, stubble, or refuse straw, into dung, that no farmer should omit seeing that all his cattle are well littered, to the degree requisite for keeping them as clean as horses in a stable are usually kept. In wet weather, the litter in the yards presently turns to rotten compost, and should be constantly replenished: the urine of the yard should all be thrown on the dung, from time to time, and as little lost as possible. Heavy rains will carry away some; but it should never be without its having been thrown once or twice on to the heap, to strain it through the earth at the bottom; for, according to the principle of those gentlemen, who have introduced this husbandry, the earth retains the saline and oleaginous particles, and lets but little more than plain water pass. But, if it preserves

only a part of those riches, the effect is a very valuable one, and should occasion the farmer's being very attentive.

With a little management, *all* might be preserved: the drains, that carry off the overflowings of the yard, should lead to a small well, with a pump fixed in it: this pump should have a light trough, turning on a pivot, to receive the liquid, and a heap of turf or marle be kept within reach of the trough: it should convey the liquid over the whole, which, being turned over from time to time, and carted on to the land, would prove an excellent manure.

THE TEAMS.

THIS month offers no work of tillage to the farmer on lands already arable: it is therefore an idle one in common; that is, the teams are kept
at

at a considerable expence in the stable, and do nothing to pay the expence, except now and then carrying out a load of corn to sale. This is not a conduct to be followed by a man, who would make the greatest profit of every article about his farm. Both horses and oxen must now be regularly employed in carting manure from the nearest town; or, if the soil is very light and dry, in carrying marle, chalk, &c, &c.

PLOUGH UP LAYS,

IT is by this time wet enough to begin to break up grafs lands: that is a work that should never be done while the land is dry; for it will not then turn up in clean, well-cut furrows. Ploughing grafs lands is a very good piece of husbandry, when they are worn out and over-run with moss and other

rubbish, or hide-bound. To keep land under such unprofitable turf is very bad management: it should, by all means, be broken up, and kept in a course of tillage for three or four years, and then laid down again; by which conduct four times the profit will arise, more than ever could be gained from keeping it in lay.

The first crop taken from grass land varies much: in some places they harrow in black oats, in others white ones; in some they harrow in hog pease; in others dibble them in with an iron with several sharp points. Some spirited gentlemen have broke their lays up by trench-ploughing; one plough going first, and taking off a thin slice, and then another following in the same furrow, and raising moulds to bury the first; on which they harrow in whatever feed they please; but chiefly pease or oats. This is excellent husbandry, and

and particularly worthy of imitation on waste lands, that are much over-run with mole or ant-hills, or other small inequalities of surface.

CART MANURE.

IN case of frosts, that are sharp enough to make arable lands bear carting upon, it is proper to carry dung, or compost prepared for the purpose, on to the fallows laid up for barley: leave it in the heaps, without spreading, till you plough and sow; for much of the virtue of dung washes out, if left long spread before it is turned in. Upon clay land, in several parts of *England*, they summer-fallow for barley, and throw the land up in the sharp, narrow ridge, in autumn, water-furrowing well; they then take all opportunities of frosts to carry on the composts: these

they form by carting dung to the borders of the fields, and mixing it up with the turf and ditch earth, leaving it in autumn ready to be carried on. By this management they get vast crops, even to seven and eight quarters *per* acre: they always sow clover with the barley; but their land is so rich in this method, that they roll it in after the barley is up, to avoid its rising too quick, and damaging the corn; this clover they mow for hay twice, and on the stubble sow wheat; which is, upon the whole, an excellent system.

SHEEP.

THIS month your forward ewes may be expected to lamb, when you should be attentive to keep them much better than they have been in common through the autumn: they should have plenty

plenty of turnips or cabbages, as fast as they lamb; for cattle that have young require as good keeping as those that are fattening; and, if you let them have a rack of hay always in the field, it will be much the better for them. Draw the turnips or cabbages, and give them on a dry grass field. One great advantage of cabbages over turnips, is the ease of cutting them, in case of the hardest frosts, when turnips cannot be gotten.

In case of extreme bad weather, it will be advisable to bring your sheep under shelter. Most farmers are sensible of this, and drive them on such occasions into their hay-stack yard, which is not a bad way; but much inferior to giving them their hay in racks, in a warm yard, with sheds around it for them to feed under. The use of such a yard is so very great, that I wonder they are not more common.

In driving snows, fleet, and rain, the injury sheep take in the open fields is very great. Another circumstance, which ought to have great weight, is the raising plenty of rich dung: by keeping your sheep in very bad weather all day, and constantly of nights, in a yard proportioned to their number, you fold them perhaps in the most advantageous method of all others; for, if a layer of turf or marle be spread over the bottom of the yard in autumn, and under all the sheds, and the sheep are kept well littered with straw, fern, or stubble, so as to be always perfectly clean and dry, they will in the winter make a great quantity of most excellent manure.

COWS.

ATTEND well to your cows, observing to draw off those from the straw-yard, that look like calving, within three weeks, and put them with the young cattle upon better food, or else bait them twice a day in the cow-house on turnips or cabbages, and hay. After calving, feed them as well as fattening cattle.

SWINE.

THIS is the middle of the season for making the right profit by hogs, which is their dung. See that all your sows with pigs are well littered, so as always to be perfectly clean, with bright, healthy-looking skins. Also
your

your fat hogs should be constantly littered up to their bellies. If they are not kept perfectly clean, you may depend on losing money, by not making so much dung as you ought. If you gain pretty near the market price of your hogs lean, of your barley, pease, potatoes, and carrots, your carriage deducted, you will do well; for the dung will pay for the litter, and leave a very considerable balance to pay the loss on the other articles, and the farmer's profit on the whole. However, in the worst of times, he can lose only by the hogs and the corn; but, if he uses many roots to assist in fattening, his profit throughout the whole business will be great.

FENCES:

KEEP your hedgers and ditchers close to work all this month: so that they may be ready for other work in the spring, in case you want them. The three first winters of your lease should get the fences into good order; afterwards divide them into twelfth parts, and do one every year, which will bring the whole to regular cuttings. On no account be persuaded, wherever you live, to do your hedges in any other than the plashing way.

MANURE GRASS LANDS.

CONTINUE to carry on your composts, that have been well mixed together, to your grass-lands; but, unless

unless in sharp frosts, use small one-horse carts with nine-inch wheels, with which you will move on the land without doing it any damage. Farm-yard, and other dung, I do not think should be applied to the grass land, but to the arable, in which it answers much better; and composts of earth, chalk, marle, lime, foot, malt-dust, &c. &c. laid on the grass, which will agree perfectly well with the grass—much better than with arable.

DIG MANURES.

UPON light and very dry soils, it will be proper to keep the marle, chalk, or clay-carts at work: indeed, they should never stop; for, when a man hires such soils for improvement, the sooner they receive the manure, the greater will be his profit: for, in many countries,

countries, landlords, after the first lease, either raise the rents considerably, or turn the tenants out. It is therefore highly incumbent on them to regain their expence, with profit, within the term of the first lease, and that can only be done by marling very quick at first.

THE END.

KALENDAR

concerning, therefore, after the first of
other parts of the year, considerably
than the separate one. It is therefore
highly important to them to retain
their names, and the power within the
state of the year, and the year can
be done by making very small at
the

FARMER'S

KALENDAR



